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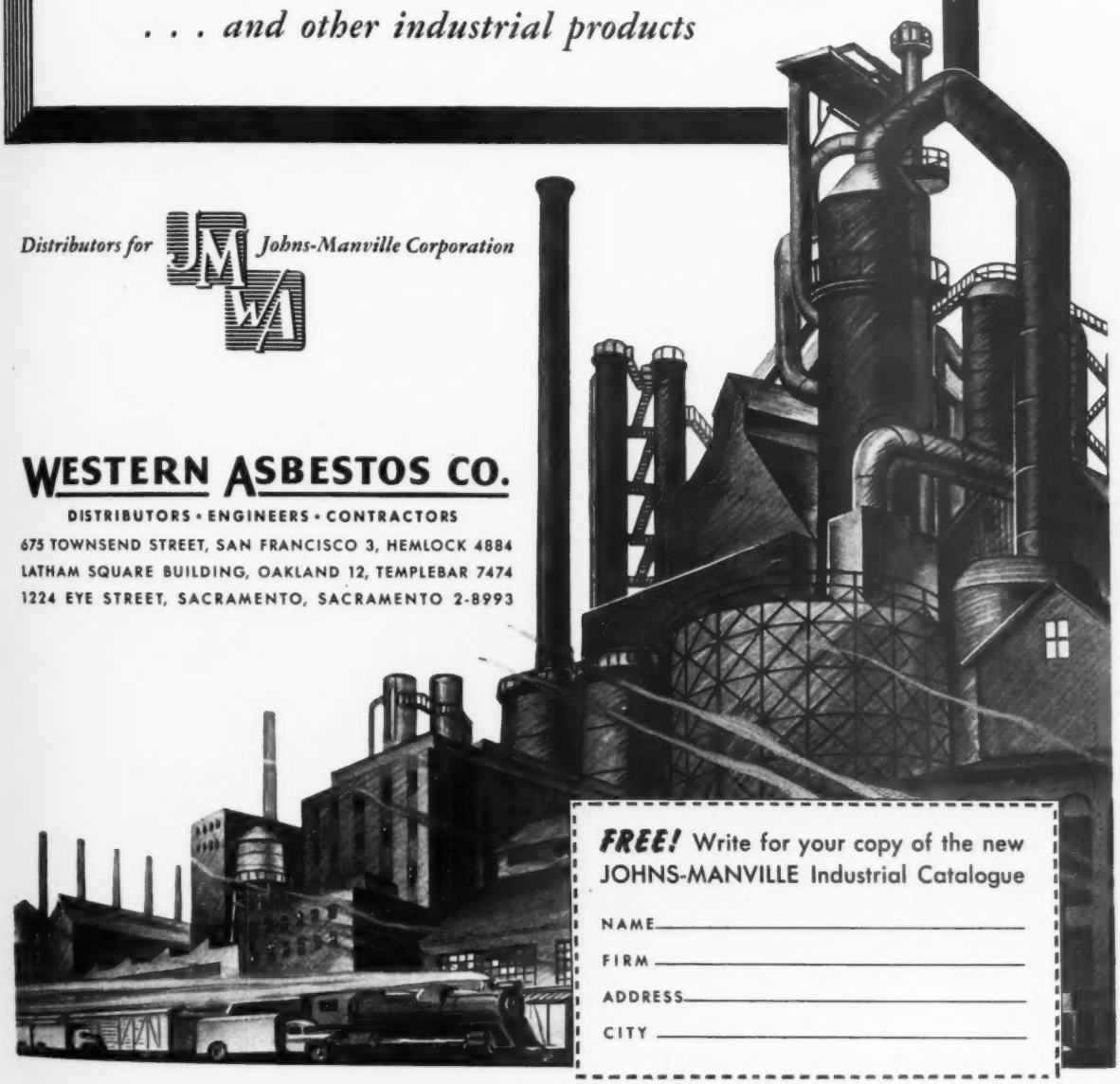
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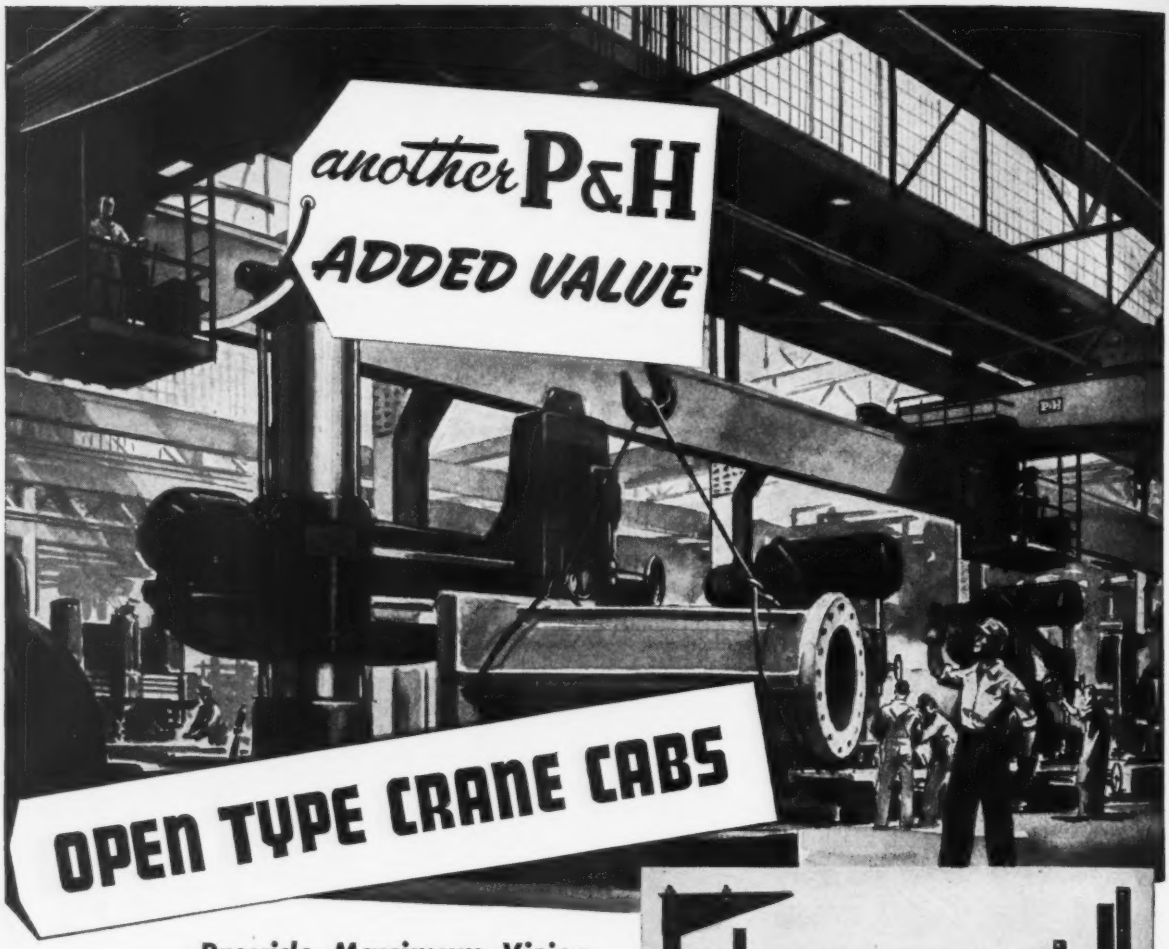
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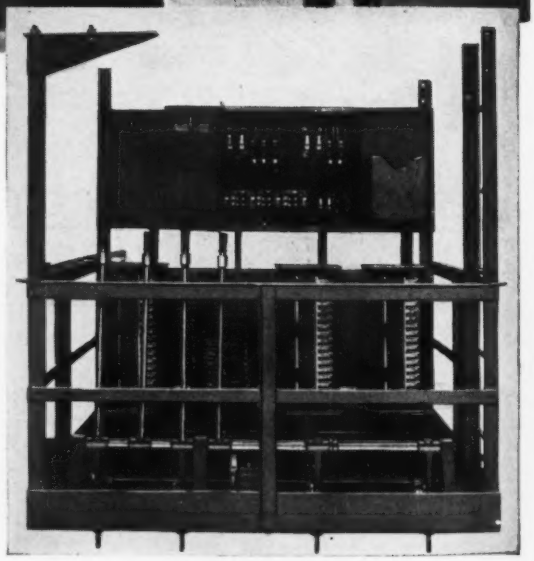


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WESTERN INDUSTRY

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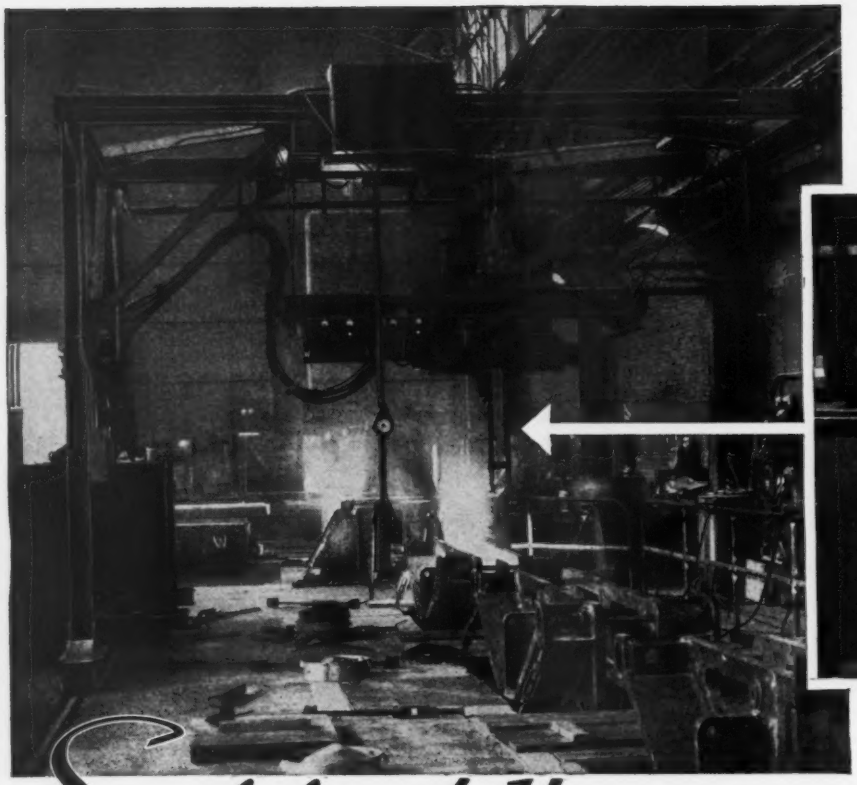
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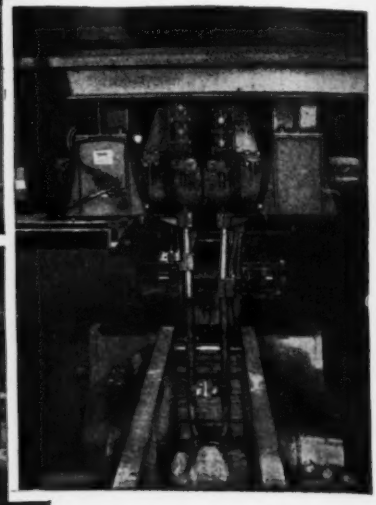
FRONT COVER

The General Meigs, built for an army transport, in drydock at Moore Drydock Company at Oakland, California, while being reconverted to a passenger liner for American President Lines.



Left — This welding gantry in a prominent steel mill is the first application of the new Cleveland Tramrail stabilized hoist principle for welding purposes.

Below — The welding heads supported by the stabilized hoist, travel without sway or vibration and automatically apply a straight continuous and accurate welding bead.



Stabilized Hoist PROVIDES ~

VIBRATION-FREE TRAVEL FOR UNION MELT WELDING

The first application of a Cleveland Tramrail stabilized hoist for automatic welding by the Union Melt Process has proven completely successful. The stabilized hoist eliminates all vibration and pendulum motion at the welding heads, permitting the laying of straight, perfect welds.

The two welding heads are secured to the load bar of the hoist. The hoist in turn is supported by the Cleveland Tramrail gantry crane. The stabilized hoist which remains absolutely rigid in any position because of the unique triangular hoisting rope arrangement, can be adjusted to any height within 4'0" limits. Welds can be made of any length up to the length of the crane runway.

Welding speed may be varied from 4 to 80 inches per minute by changing the gantry travel speed by means of push buttons on the pendant control cable. A tachometer on the cable just above the buttons keeps the operator informed of the welding speed.

The gantry crane with stabilized hoist is lighter and easier to manipulate than the usual heavy structural type of welding travel equipment. It is simple to adjust, convenient to use and very flexible in application to different kinds of work.



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Bear INDUSTRIAL FIRE HOSE

FOR HOSE REELS • HOSE RACKS • HOSE CARTS





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Bear fire hose costs less per foot—per year

Bear industrial fire hose costs less per foot per year because it outlasts ordinary hose, often 2 to 3 times. It carries required pressures after years of service because its construction eliminates all weak spots. Jackets are uniformly woven so each strand carries its share of the load. Tubes are laminated and calendered to an exact, uniform thickness. Each ply is carefully inspected *inside* and *out*—yet any small imperfection in one sheet is covered by the other sheets. Bear hose is always ready for action—and is often selected for economy alone!

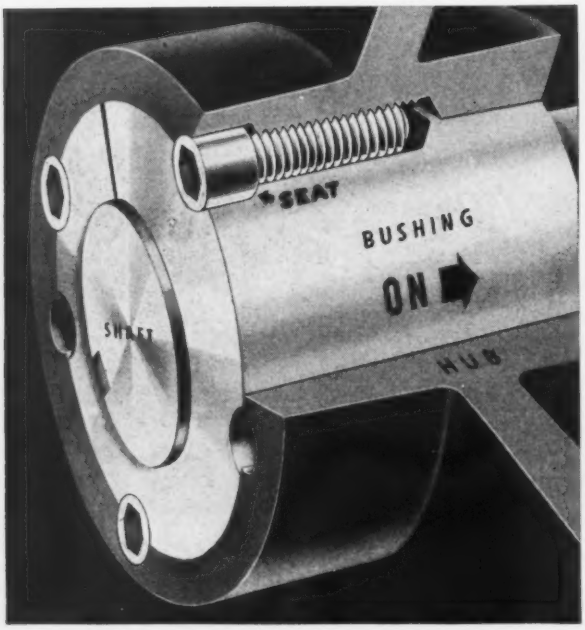
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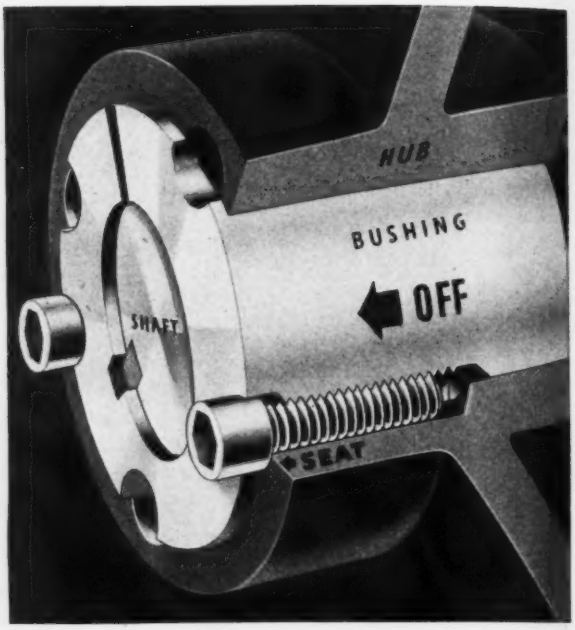
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HERE'S HOW IT WORKS

...SIMPLE, ISN'T IT?



Note that only the HUB is threaded. Screw-head seats itself against offset in bushing. As the screw is turned, the sheave is drawn up—wedged—with a firmness equivalent to a shrunk-on fit, whether the shaft is standard or normally undersize.



Note that here only the BUSHING is threaded. Screw-head seats itself against face of hub. As the screw is turned, the wedge is disengaged. Due to its steep taper, the bushing disengages with less effort than in any other sheave.



NEW TAPER-LOCK BRAND SHEAVE

Patent applied for



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Friendly, faithful counsel based on good judgment wins the case and prospers both the Advertiser and his Counsellors.

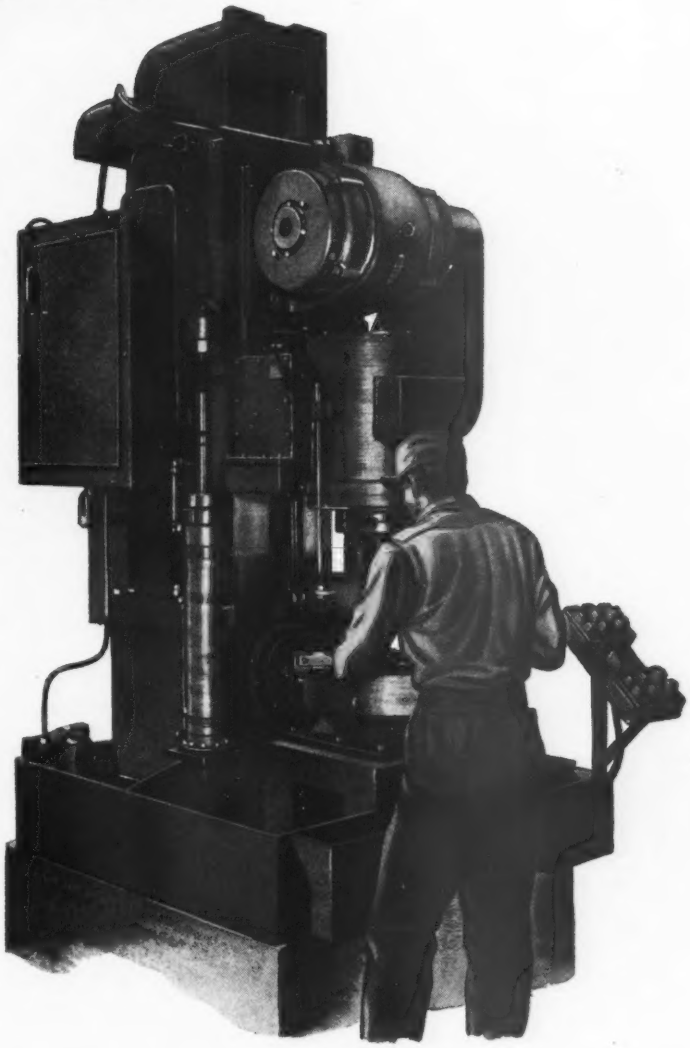
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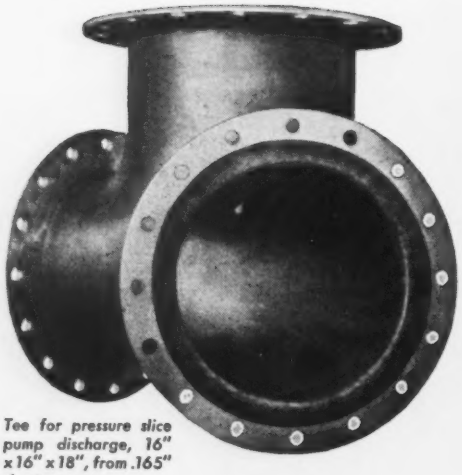
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Special elbow, 18" x 14" x 18", made from .165" sheet copper



Flanged elbow for paper stock, 24" diameter, from .165" sheet copper

This equipment was fabricated of Revere sheet copper by R. A. Burroughs & Co., Inc., Norfolk, Va. All seams were gas welded with copper welding rod.

THE pictures on this page show plant equipment in unusual shapes and large sizes, fabricated of Revere sheet copper by R. A. Burroughs & Co., Inc., Norfolk, Virginia, coppersmiths and metal fabricators since 1910. They illustrate the amazing versatility of this metal, which in skilled hands can be worked from the flat into practically any shape.

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The Revere Technical Advisory Service will gladly cooperate with you in working out the applications of copper.

REVERE

COPPER AND BRASS INCORPORATED

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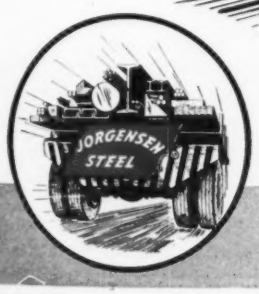
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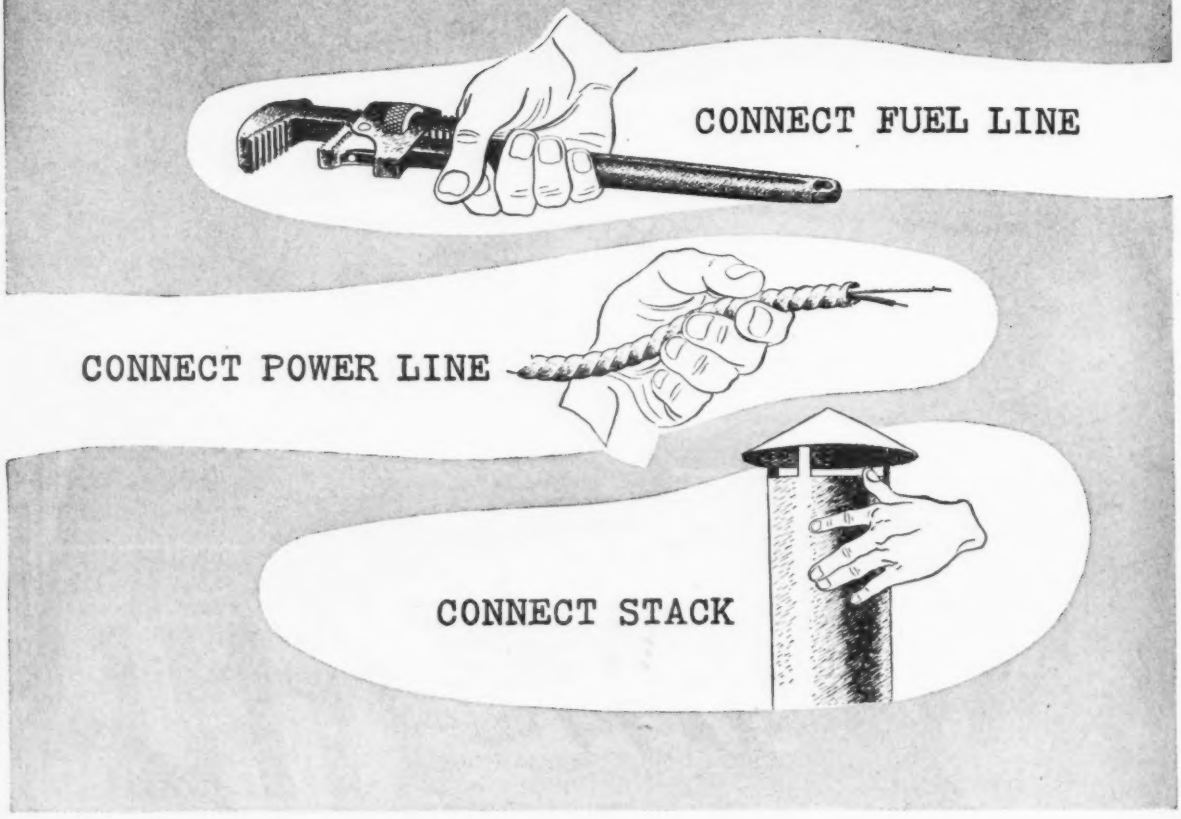
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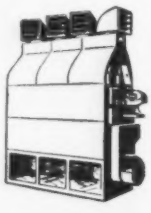
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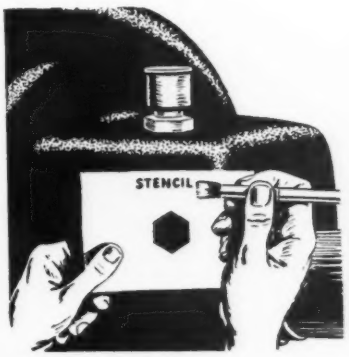
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EYES have it easy compared to ears. Eyelids can block out irritating light. But ears have no "earlids." They have to take noise every minute. And to people working under tension in offices and factories, noise can become a serious irritation.

Conditions in offices and factories today have spotlighted noise as a troublemaker. Overcrowding . . . inexperienced help and increased activity have brought higher noise levels to every floor. This irritates office and factory workers and slows productive activity.

Fortunately there's an easy way to mute today's noises into soothing quiet that works magic with busy workers. Follow the example of leading firms by Sound Conditioning with Acousti-Celotex.* This is the famous perforated fibre tile and most widely used of all sound conditioning materials. It can be applied quickly and quietly without disturbance. It can be painted without any loss of efficiency. ☆ Call the Acousti-Celotex Distributor nearest you. He is sound conditioning headquarters and a member of the world's most experienced acoustical organization. His advice is yours without obligation, and he guarantees results. A phone call or note will bring him to your desk promptly.

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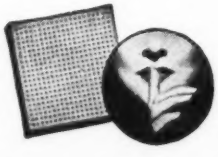
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ADV. BY H. W. AYER



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You get a whale of a lot of fastener toughness packed into Cleveland High Carbon Heat Treated Cap Screws by

EXTRUSION

Use Cleveland High Carbon Heat Treated Cap Screws for assembly jobs needing fasteners of high tensile strength. They're notably tougher—by actual tests—because they're made by the Cleveland-developed Kaufman Process which *double extrudes* over-size steel to form accurate-to-size heads, shanks, and strong smooth-running threads. Complete modern heat treatment adds the extra touch that assures you the toughest fastener in this class. Write for Catalog F or ask your jobber.

CLEVELAND *Top Quality* **FASTENERS**

The Cleveland Cap Screw Company

2917 EAST 79TH STREET • CLEVELAND 4, OHIO

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1015 East 16th Street, Prospect 8326

SEATTLE 14
1006 Lowman Building, Seneca 2420

SAN FRANCISCO 5
59 Hawthorne St., Garfield 2075

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816, 12th Street, Main 0063

MADE BY THE ORIGINATORS OF THE KAUFMAN PROCESS FOR GREATER STRENGTH AND ACCURACY



WE START THE FINISH RIGHT.... TO MAKE IT END THE WAY IT'S WANTED



"Smooth as a baby's cheek— and baked on to stay!"

That's the way the Plant Superintendent likes to see fluorescent fixtures come off the line. His sensitive fingers and critical eye tell him his production figures are "right on the dime, friend; your stuff is KO."

There are many ways to bake a finish on metal. Whether the curing schedule requires five minutes or an hour, by gas or electric oven or by infra-red tunnel (illustrated), Fuller formulates a finish to fit.

Our synthetics, we are told, give better covering, better "mileage," higher gloss, more durable wear.

Such properties, important to water heaters, fixtures, refrigerators, air conditioning units, stoves and such, indicate the Fuller laboratory technique—look beyond the production line to a useful life for every Fuller-finished product.

In the general paint application field, too, Fuller always formulates in terms of final service, because *use* is the final proof of quality.

Whatever your surface protection or beautifying problem, we believe we can solve it. We've solved some tough ones. We're still on our mettle! W. P. Fuller & Co. Factories: San Francisco, Los Angeles, Portland. Branches, warehouses in principal Western cities.

FULLER *Industrial* FINISHES

PRODUCTION FINISHES

Many leading Western wood and metal finishers specify Fuller for production profit, sales appeal, buyer satisfaction.

MAINTENANCE FINISHES

Protection for equipment, plant machinery, buildings, offices, plus "Color Engineering" —Fuller products fit, suit, serve and save.

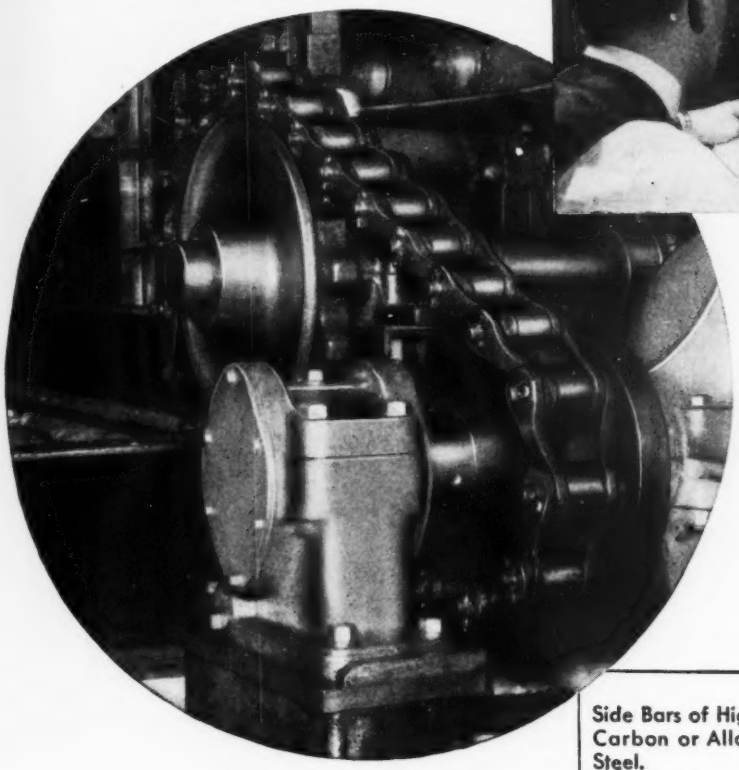
AIRCRAFT FINISHES

Millions of war flight-hours proved Fuller Aircraft Finish quality. Now available for private planes. See your Airport Refinisher.

SAVE SPACE ...ADD STRENGTH WITH CHABELCO CHAIN DRIVES!

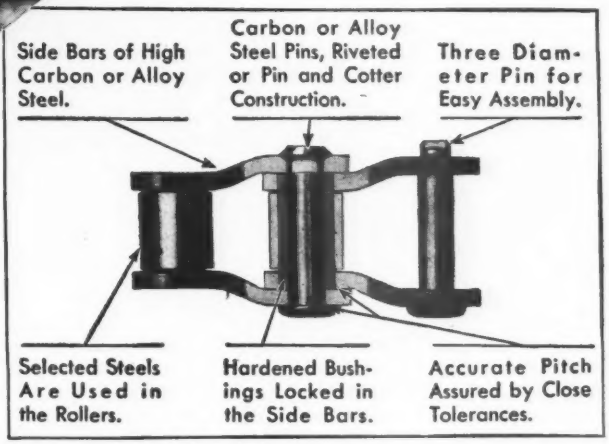


① **WITH REX CHABELCO** steel chain belts, you can get the added strength needed for heavy-duty transmission drives without the bulk of other types of drives.



② **HERE, FOR EXAMPLE,** is a heavy-duty Chabelco drive transmitting power to an automobile chassis conveyor. The drive is exceptionally compact, particularly in width because with a chain drive, the working load is distributed over many sprocket teeth and . . . chain drives assure a smooth flow of positive power at minimum operating costs.

③ **THE UNIFORMLY HIGH QUALITY** of materials and workmanship used in Rex Chabelco chain, plus well-engineered applications are the principal reasons for its ability to outlast ordinary drives. Note the features listed in this cross-section. And if you need further proof, see your Rex Man or write us for the complete story.



REX CHAIN BELTS *manufactured in every available type for the positive transmission of power, timing of operations and conveying of materials*

CHAIN BELT COMPANY OF MILWAUKEE • 1723 W. Bruce Street, Milwaukee 4, Wis.

The New 2½" to 4" Geared Pipe Threader

that's a lot easier to use

New RIDGID No. 4P

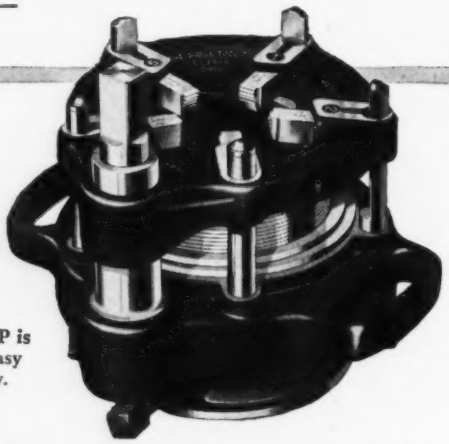
● Surprisingly easy to handle — that's one big advantage you find RIDGID has engineered into this new 4P. Geared die stocks for 2½" to 4" pipe can't be featherweight but they can be far easier to use — and this one is. It gives you smooth perfect threads with least possible effort. Look, now —



Balanced loop handles make new 4P extra easy to put on pipe.



New 4P is extra easy to carry.



New 4P has 5 chasers for smoother threading.



Quick-setting workholder sets to pipe size before putting on pipe.

Balanced Loop-handles. Easy to pick up, easy to put straight on pipe — no slipping or tipping over. And easy to carry with one hand. . . .

Quick-setting Workholder. Mistake-proof — you set it to size *before* you put it on pipe, then tighten only one screw. No bushings to bother with or lose. . . .

Easy Pipe Threading. Four sets of 5 high-speed steel dies easily cut clean accurate threads, standard or tapered, drip threads, short nipples. Ratchet handle with each 4P; RIDGID universal drive shaft available for power drive. . . .

Extra Easy Upkeep. Twin-anchored drive shaft turns in oilless bronze bearing — never needs oil. Grease packed gear is fully enclosed, safe for you, safe from dirt and wear.

●

YOU'LL LIKE the new rugged steel-and-malleable 4P — it's a true worksaver RIDGID, precision made throughout — more for your money. Production still limited — see it at your Supply House.

Millions of RIDGID Tools in use

★ RIDGID ★

WORK-SAVER PIPE TOOLS

The Ridge Tool Company
Elyria, Ohio, U. S. A.



Here is another typical Grinnell development in piping – an improved tube fitting which makes possible the use of less costly steel tubing and reduces production flaring and assembly costs.

The Superseal Fitting is another product of Grinnell's specialized piping knowledge, continuous laboratory research and experimentation. It is further proof of the ability of this company to supply everything for piping – from a tiny tube fitting to a complete power or process piping installation.

GRINNELL COMPANY, INC.
Executive Offices: Providence 1, R. I.
Branch offices at Los Angeles, San Francisco, Oakland, Seattle.

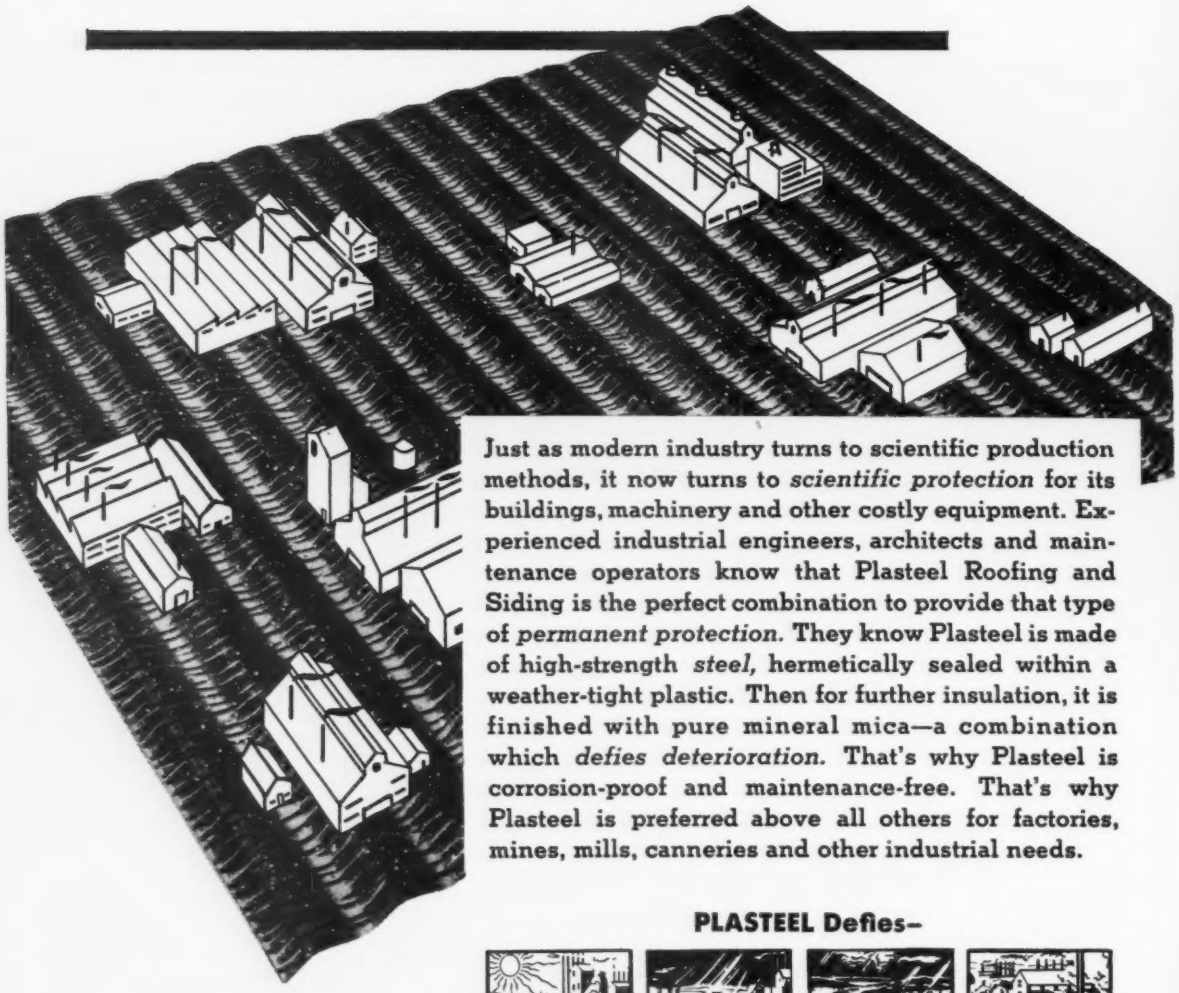
Manufacturing Plants:
Providence, R. I.; Cranston, R. I.; Atlanta, Ga.;
Warren, Ohio; Columbia, Pa.

GRINNELL

WHENEVER **PIPING** IS INVOLVED

PLASTEEL

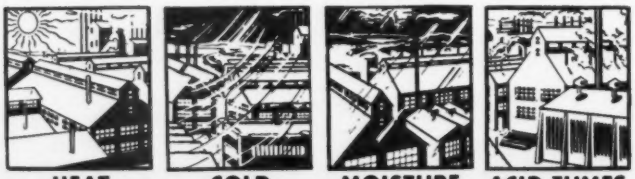
The Scientific Roofing that makes Galvanized Iron Obsolete



Just as modern industry turns to scientific production methods, it now turns to *scientific protection* for its buildings, machinery and other costly equipment. Experienced industrial engineers, architects and maintenance operators know that Plasteel Roofing and Siding is the perfect combination to provide that type of *permanent protection.* They know Plasteel is made of high-strength *steel,* hermetically sealed within a weather-tight plastic. Then for further insulation, it is finished with pure mineral mica—a combination which *defies deterioration.* That's why Plasteel is corrosion-proof and maintenance-free. That's why Plasteel is preferred above all others for factories, mines, mills, canneries and other industrial needs.

Let us send details—
Write or wire today

PLASTEEL Defies–



HEAT COLD MOISTURE ACID FUMES



PROTECTED STEEL PRODUCTS

General Office and Plant • Washington, Pennsylvania

New Solar Foundry Specializes in STAINLESS CASTINGS



● Solar offers new service to West Coast manufacturers with installation of an up-to-the-minute stainless steel castings foundry.

Have You a Stainless Steel Castings Problem?



Solar's new San Diego foundry turns out *stainless steel* castings exclusively... utilizing modern induction furnaces to produce castings by both static and centrifugal methods.

Whether your problem calls for miniature stainless castings a few ounces in weight or up to 300 lbs., see Solar first. Call or write today for details on this new West Coast service.



Pouring stainless steel castings at Solar.

STAINLESS CASTINGS DIVISION

SOLAR

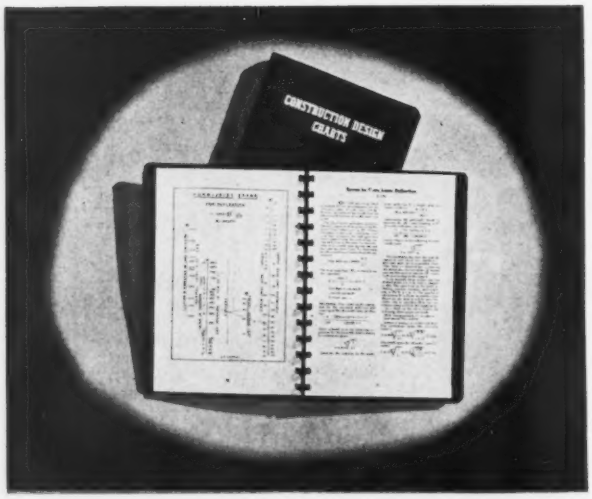
STAINLESS PRODUCTS

SOLAR AIRCRAFT COMPANY • SAN DIEGO 12, CALIFORNIA

ENGINEERS — CARPENTERS — CONCRETE MEN — FOREMEN — SUPERINTENDENTS:

SOLVE ENGINEERING PROBLEMS . . . . . at a Glance!

There is no time to waste these days on tedious figuring of routine problems! This popular edition of CONSTRUCTION DESIGN CHARTS, by Professor James R. Griffith, gives countless engineering shortcuts—gives the answers to engineering and preliminary design problems in a flash! Engineers—carpenters—concrete men—foremen—superintendents—there's a whale of a value in this book for every man engaged in construction today!



This is the third reprinting of the CONSTRUCTION DESIGN CHARTS, and the contents are exactly the same as those which appeared in the original enlarged edition of 1943. This book contains 72 charts and has 150 pages filled with valuable information that will help you. Covered in sturdy black fabrikoid, stamped in gold, the book has a special metal binding that allows each page to lie flat for easy reference.

THIS NEW EDITION IS LIMITED—ORDER TODAY

The original edition of CONSTRUCTION DESIGN CHARTS disappeared like magic, so there's no time to lose in getting your order in for this book. The latest reprinting of this popular book is now available and our supply is definitely limited. We suggest placing an order immediately.

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Measurement of Triangular Areas

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YES, I want a copy of CONSTRUCTION DESIGN CHARTS, for which I enclose $3.00 Add 8c sales tax if ordering from a California address. If I'm not completely satisfied, I can return book in 10 days and get my money back, plus postage.

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the New A-2



FOR FASTER STRAPPING



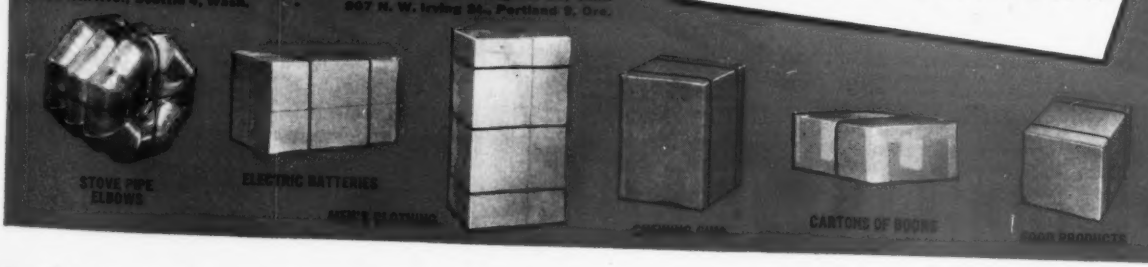
Signode's new A-2 Seal-Feed Strapping Machine tensions, cuts, seals in quick, easy motions. One tool does all. It is lightweight, compact and outstanding for fast, low-cost strapping ... particularly on centralized or conveyor systems. WRITE TODAY for complete details and demonstration in your own plant.

Use Signode Steel Strapping for added protection in shipping cartons, boxes, crates, skids, pallets... and also for carloading.

SIGNODE

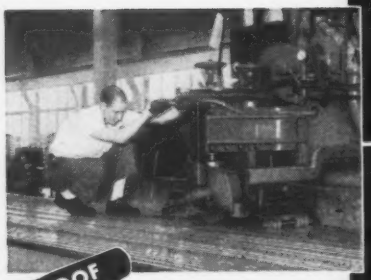
SIGNODE STEEL STRAPPING CO.
2615 N. Western Avenue, Chicago 47, Illinois
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SIGNODE
STEEL STRAPPING



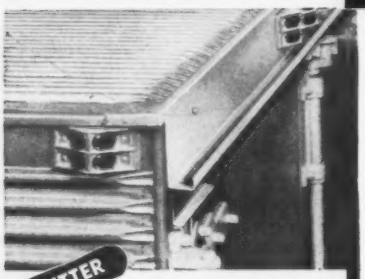
NOW in Production on the West Coast
STAINLESS STEEL TRAILERS

LIGHTER . . STRONGER . . A BETTER INVESTMENT!



ROOF

Extra strength is provided by wide corrugation and continuous welds, all doubly protected against leakage.



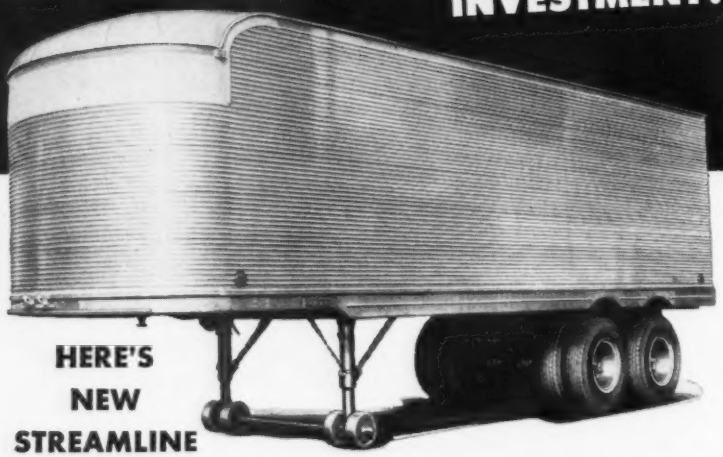
GUTTER

Wide, full-width gutter prevents leakage into Trailer while loading or unloading. Prevents water seepage around doors while on the road.



DOORS

New smooth, full length rear door panels are easy to keep clean; are ideal for name and advertising messages.



HERE'S NEW STREAMLINE BEAUTY . . . and Just a Few of Many New Features!

What Users Say About Fruehauf Stainless Steel Trailers:

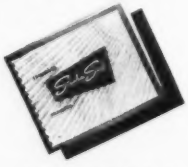
- Fuel and oil costs are lower — less dead weight to haul.
- License costs less — when based on unladen vehicle weight.
- Light weight means extra payload — extra profit.
- Corrosion resistant — rust resistant — no need for painting "Stainless" cuts maintenance cost.
- Strength of Stainless minimizes repairs.

World's Largest Builders of Truck-Trailers

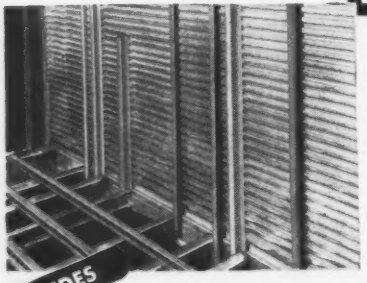
FRUEHAUF TRAILER COMPANY

Western Manufacturing Plant—Los Angeles

Sales and Service Branches: **Los Angeles • San Francisco Portland • Seattle • El Paso • Phoenix • San Diego • Fresno Spokane • Billings • Salt Lake City • Denver**



Send for new fully illustrated folder "Stainless Steel Trailers."



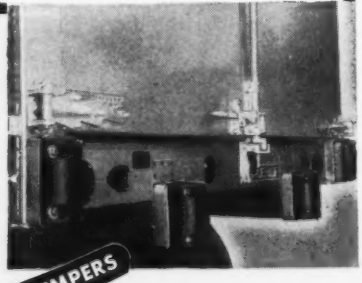
SIDES

The whole side of the Trailer is a load-carrying beam—load stresses travel up Z-formed uprights, are distributed throughout corrugated outer panels.



FLOOR

Ten hat-shaped Stainless Steel ribs, welded to every cross beam, provide a floor with 2½ times the capacity of an oak floor of the same thickness.



BUMPERS

Rubber bumpers designed into the rear of the Trailer provide added protection at loading docks.

FRUEHAUF TRAILERS

FRUEHAUF TRAILERS

"Engineered Transportation"

Editor's Field Book Jottings

Cost accountants are now auditing the dictionary and supplying new and more exact terminology to replace some of the rather indefinite words contained in this well known but not too well read book.

At least we believe they must be, for a recent notice sent out by the San Francisco chapter of the National Association of Cost Accountants about a prospective visit to the Standard Oil refinery at Richmond, California, referred to the "emmence" size of this refinery.

Coming from such a meticulously careful organization as the N.A.C.A. must be, this new word must undoubtedly indicate the exact number of square feet, gallons and dollars included in this refinery. Another unknown quantity eliminated from life's puzzles. No longer do we have to wonder just how big "immense" is.

* * *

"Emmence" is not the only sign that life is becoming simpler. One of our contemporaries, a motor truck magazine bearing the name of "Go," tells how one of its favorite readers delights in "circumventing the impossible." Of course, after the New Deal brain-trusters showed us how to "unscrew the inscrutable," everything else should be simple, indeed—even circumventing the impossible.

* * *

Another of our contemporaries, the mighty *Iron Age*, tells us in one of its editorials how the Bible is the best selling of all books, and the editor goes on at some length to quote St. Paul and commend him for his perspicacity.

Unfortunately, Bible publishers apparently have neglected to drop around and sell *Iron Age's* editor a copy of the book, for the widely-known statement that he attributes to St. Paul is considerably garbled in the first place. Secondly, St. Paul didn't say it—the author happened to be the main character in the four gospels.

But *Iron Age* brought its batting average up to .500 the next week by correctly quoting Solomon as saying, "go to the ant, thou sluggard." So *Iron Age* is out in front again, for not even Babe Ruth in his palmiest days ever had a batting average of .500.

In Our Mail Box

Editor, Western Industry:

I had the pleasure of hearing a very interesting discussion by Mr. W. G. Herron last week, the substance of which I understand is covered in a series of three articles you are running in the August, September and October issues, which is the reason for my immediate interest in subscribing, but I also feel that we will find your publication of value throughout the year.

R. L. CHENEY
West Coast Office
Glass Container Manufacturers Institute.

EDITORIAL COMMENT

Unfairness Does Not Create Fairness

REGARDING the so-called "fair employment practices" constitutional amendment, to be voted on by the California electorate as an initiative measure in November (which seeks fairness to one at the expense of another), employers are in the unenviable position of being "damned if they do; sunk if they don't."

If they openly oppose it, they give the militant element promoting this measure a golden opportunity to stigmatize them as opponents of fair play and fomenters of race prejudice, thereby building up sympathy for a supposedly noble cause; if they endorse it or remain passive, they run the grave risk of having compulsory employment of negroes and other minority groups saddled on them, whether the circumstances make such employment desirable or not.

Consequently it seems as though the best course is to dump the responsibility for success or defeat of this measure in the lap of labor, where it belongs. If the employee class in general, who constitute the majority of the voters, endorse non-discrimination at the polls, they then assume the moral burden for accepting any and all racial or religious mixtures on any and all jobs.

This only amounts to throwing a life preserver to the employer while leaving him a thousand miles from shore, for on him still rests all the legal responsibility. Employees who refuse to work alongside representatives of a minority group are not penalized; nor has the employer recourse if patronage is discouraged. But if the employer fails to employ or keep the "most qualified person" he is liable to a fine and/or a jail sentence.

Enforcement lies in the hands of a salaried commission with $250,000 or more a year to spend. As justification for investigation, the commission can take anybody's word that discrimination has been practiced, or can institute an investigation without a complaint. No provision is made for an employer to subpoena witnesses in his own defense, he cannot obtain relief while a court review is pending (although the commission is given this privilege), and the court can only review the record of hearing before the commission; no other evidence can be heard.

Actually, if this proposed constitutional amendment were truly a "fair practices" act, it would make labor, through its collective bargaining agents, equally responsible. Since it does not, management must content itself with acquainting employees with the facts and implications of the situation — unless it wishes to stick its neck out and risk being accused of hostility in principle to fair employment practices, even though opposed only to this particular measure.

But each employer must read the signs on the horizon and begin without delay to assume moral responsibility for giving colored people, who are just now finding the path to economic equality and advancement, every opportunity whenever qualified and the hazard is not too great. Employers cannot take a dogmatic position; it was their blind fight against unionism which engendered a flood tide of resentment and exasperation that swept the Wagner Act high on the shores of the industrial landscape!

Wire ahead...

for productive payrolls



TODAY'S WORKERS need today's wiring. . . . Inadequate wiring, obsolete wiring, overtaxed wiring, over-extended wiring can cut operators' efficiency from 25 to 50 percent and reduce production accordingly.

To visualize the importance of adequate wiring, walk down your own production lines, mentally blank out every third worker. Then, check with your plant power engineer, your consulting engineer, electrical contractor or power salesman and make sure there's no such handicap in your plant.

A wiring survey now, may save costly shut-downs and expensive alterations later.



ANACONDA **ANACONDA WIRE & CABLE COMPANY**

Spotlight on the NEWS

WESTERN INDUSTRY
FOR SEPTEMBER, 1946

VOLUME XI NUMBER 9



If bottles were as plentiful today as bottlenecks, glass manufacturers could declare a holiday for the rest of the year. Here are a couple of typical bottlenecks that also serve to indicate industrial trends in the West:

Machine shops in the Los Angeles area are suffering from lack of parts because eastern manufacturers still allocate on the prewar basis of 500 to 600 shops in the area, instead of the 3,000 that exist there today.

Scarcity of major components and parts makes logging trailers in the Pacific Northwest expensive and hard to get. Greater demand results from a basic change in lumbering to the use of many new access roads to get the logs out of the woods.



Plenty of Lumber

Incidentally, timber is not disappearing, say Western Pine Association officials. About 40 per cent of the West's pine land is in reserve, 97 per cent of the cut-over land is growing young trees, and the big need now is to log out the mature trees so the younger growth will have a chance.

Per capita consumption of wood also is going down. Back in 1910 it was 520 board feet a year; in wartime it was 300, and now it has dropped to 200 to 225 feet.

Competition of steel, concrete, aluminum, plaster board, gypsum lath, and other materials is responsible for this, they say.



Too Many Peas Already

When will supply ever catch up with demand? Well, it's already on the horizon in canned peas, of which the Pacific Northwest contributed this season some 7,000,000 cases to the national total of more than 41,000,000 cases.

Due to a carryover of 12,000,000 cases or more from the 1945 season, there is a total supply of about 54,000,000 cases in the country, 10,000,000 cases more than were ever moved into consumption before. Unless there is a crop failure next year, or some other untoward incident, the OPA won't have much of a policing job to hold down the price of canned peas.

The first cloud on the California horizon seems to take on an apricot tinge. Among California canners the saying goes that more men have lost their shirts on apricots than on anything else, but during the war years shirts have been reasonably safe.

Now it appears that the 1946 pack of apricots, of which all but a microscopic fraction are grown and processed in California, reached an all-time high of 10,500,000 cases, about 2,500,000 cases more than were packed in 1944, the previous record output.

Canners' and distributors' warehouses are empty of all canned fruit, so the outlook for disposal of all these apricots is good, but for one little joker, namely, that most of the apricots sized up very small this year. Consequently the pack is low in quality and may be hard to move when the expected record-breaking 1946 pack of canned peaches comes on the market.



Tape Long; Scrap Short

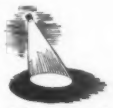
Another case of the government allowing one man to pick up a spoon off the table, but insisting that someone else must put it in his mouth for him.

More than 400 surplus ships are at anchor in the San Francisco Bay area, waiting to be broken up into scrap; approximately 100 ships a year would take care of two-fifths of the West Coast scrap demand. West Coast steel mills, running principally on scrap, are critically short, yet the government will not release enough ships to meet their need.

On the East Coast and in Engand, ship wrecking is a well-established industry, but nothing of any importance has been done in that line out here. Yet there are several surplus shipyards well-suited to that purpose, provided an operator could be assured of a supply of ships to justify going into the business of ship wrecking.

Captain A. B. Court, formerly inspector of naval material at San Francisco, now a consulting engineer, has been back to Washington to investigate the situation, and finds that it is stuck on dead center between the Maritime Commission, Civilian Production Administration, Navy and Office of War Mobilization and Reconversion. He reports that at least 50 ships are likely to be designated for scrapping within the next few months, but the snarl of red tape must be cut if the scrap shortage is to be relieved.

Reportedly heeding complaints of private yards that Kaiser is being subsidized in the repair business by merely paying rent on Richmond Yard 3, Maritime proposes to make this a shipwrecking yard.



Just the First Round

Only the first round is over in the battle for more favorable steel freight rates for the West.

When U. S. Steel asked for an $8 rate from Geneva to five leading Coast cities, with no mileage differential against the Northwest, instead of the prewar $12 and up, Kaiser and Bethlehem's Pacific Coast mill wanted comparable cuts to Coast and intermountain points.

Then the eastern mills had an inning at Chicago, where it was contended that the West already enjoyed rates equal or lower than comparable distances elsewhere. And ICC Commissioner Aitchison recently predicted a change for the West would call for a general modification over the nation.

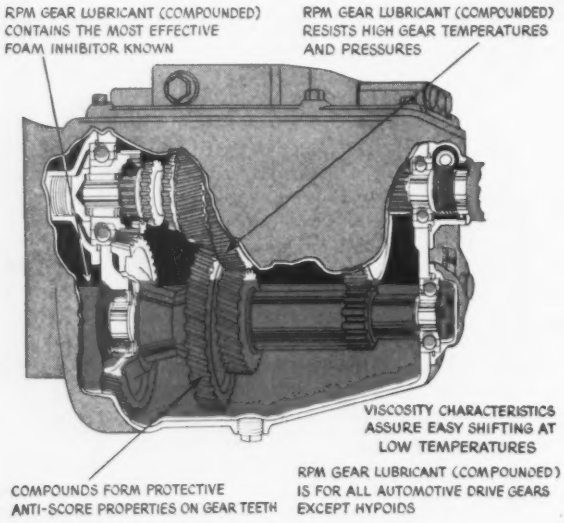


Easy Transition

Says Federal Reserve Bank: the West showed no sign of distress when transition to peace wiped out the best-paid 45 per cent of its manufacturing jobs; aircraft and shipyard layoffs of 570,000 were more than total of all manufacturing jobs in 12th District in 1939, yet manufacturers as a whole employed 65 per cent more persons in 1946 than in the comparable period of 1939.

STANDARD ENGINEERS NOTEBOOK





Compounded lubricant prevents gear scoring

Many operators of automotive equipment have eliminated transmission and differential trouble by switching to RPM Gear Lubricant (Compounded). It is recommended for all transmissions and all conventional differentials. (RPM Hypoid Lubricant should be used in hypoid differentials.)

The compounds in RPM Gear Lubricant assure that a tough, oily film will remain on gears when pressure and heat become excessive. A highly effective foam inhibitor prevents retention of air in lubricant, poor distribution and "boiling up" to cause leaks.

RPM Gear Lubricant (Compounded) is non-corrosive. It comes in four grades: SAE 80, 90, 140, 250.

For complete information about automotive drive gears and their lubricants, write for the new, free booklet: "The Lubrication of Automotive Gears."

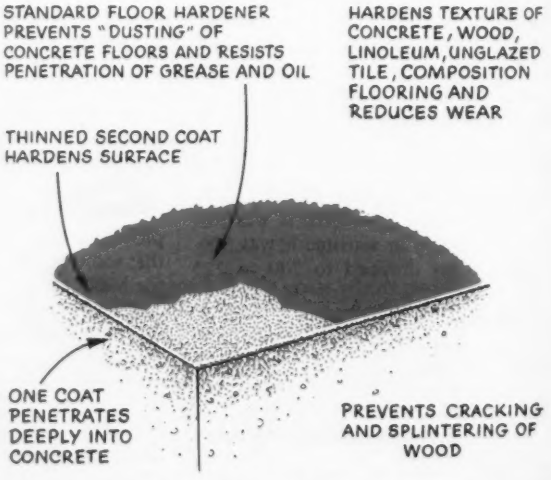
Floor Hardener stops concrete "dusting"

Extra wear and the cost of maintaining and cleaning concrete floors can be reduced by treating them with Standard Floor Hardener.

Containing many of the materials that go into fine varnishes, Standard Floor Hardener penetrates and seals the pores of concrete, wood, linoleum, composition flooring and unglazed tile. It provides a smooth, hard surface that is easier to keep clean. It binds the surface of concrete so that decomposition called "dusting" is retarded.

Because of the porosity of concrete, two coats of Standard Floor Hardener should be used on such floors. The first will penetrate deeply. When it has dried, it will keep the second application near the top and form a non-slippery, wear-resistant surface. Always thin the second coat by adding 25% Standard Compounded Paint Thinner.

Care should be taken to have concrete, and other surfaces thoroughly dry before treating.



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LABOR PRODUCTIVITY DOWN BUT CIO WANTS TO HAMMER IT LOWER

Cries of "Speed-up" Are Welkin-Bound, But for the Longshoremen, At Least, Evidence Shows a "Slow-Down" Extending Back for Years

JUST when William Green and some other national labor leaders are beginning to admit publicly that production is the final answer to inflation, some labor groups on the Pacific Coast are starting in the opposite direction.

Their charge is "speed-up," under which they say they worked during the war. Their answer is "an all-out drive to re-establish peace-time working conditions on the job," which employers say is an open campaign to reduce production.

According to a story appearing in the CIO press, for example, workers at the Pacific Tea Packing Company plant in San Francisco, after complaining that they were "numbed from packing 30,000 bags a day," announced that they had got that production figure cut by one-third.

In another story dealing with conditions at a major West Coast warehouse it was stated that "Members have succeeded in cutting down on the speed-up," and have "cut down on overloading and have eliminated teamsters doing warehousemen's work."

Such instances may seem trivial, but quite possibly they have the importance of indicating a trend towards a declining productivity of labor in those and other related fields that may intensify during the next several years.

For a clear picture of how declining productivity can persist over a long period, conditions obtaining in Pacific Coast waterfront labor form an excellent example.

Longshore Slowdowns

Present slowdowns by West Coast longshoremen are ostensibly because of undue delays in receiving retroactive pay that has been awarded them. But their productivity in loading and unloading ships has declined by more than 40 per cent during the past ten years, the Pacific Coast Waterfront Employers Association says.

Putting it another way, the number of tons of cargo presently handled per hour by a longshoreman is only three as compared with the five he handled in 1935.

Basis for this statement lies in studies made of records of member firms over the past ten years. The association admits, however, that the 40 per cent decline does not necessarily obtain for all its member firms, since not all of them have kept records suitable for such statistical purposes over the past 10-year period.

In the case of handling raw sugar by longshoremen, as shown on the accompanying chart, labor productivity in the years from 1933 to 1946 has shrunk by 67.4 per cent. The association admits that sugar forms an extreme case, but if the policy of rotating longshore gangs from job to job obtains for sugar handling as well as for that of other commodities it may not be too extreme.

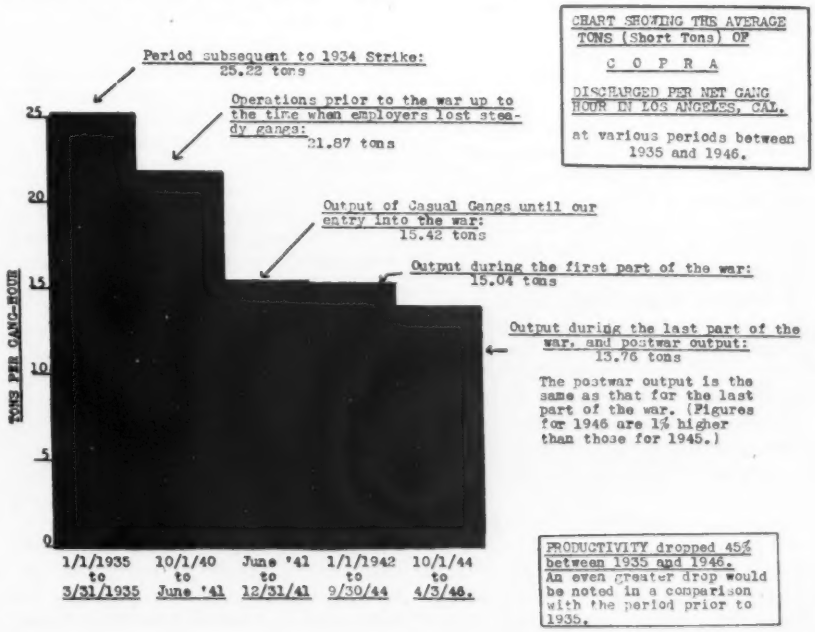
In any case, the decline in productivity of longshore labor handling sugar is far from ending. In mid-August, Matson Terminals, Inc., found it necessary to discharge a gang of longshoremen at Crockett, as a result of demands by union officials for a change in sugar unloading practices which employers described as nothing but a "make work practice."

The dispute rose from the following conditions: Rope slings, large enough to hold 18 sacks of sugar together, are used to make sack bundles in the holds of ships unloading cargo. The bundles are hoisted out of the hold by means of a single crane that drops them onto the floor of an unloading platform about 20 feet above the deck of the ship. When the rope slings have been removed from the sacks they are dropped back to the deck where a longshoreman picks them up to drop them back into the hold.

Change in the procedure demanded by longshoremen union officials was that the slings be lowered into the hatch by means of the crane used for hoisting.

According to the employers, no accident has resulted from the regular prac-

• Output of longshore gangs handling copra, an important ingredient of soaps, has declined steadily in the Los Angeles area since 1935. Since the chart shows small variation for the greater part of the war period, use of unskilled labor cannot be blamed.





• Tons of copra unloaded by longshoremen in San Francisco, shown above, have also dropped substantially during past 12 years.

tice which has been in use for the past 20 years.

Though the dispute has been settled as the longshoremen asked, and with their assurances that there would be no cut in production as a result, operations were tied up for two days at Crockett.

Declines in longshore labor's productivity in handling many other products are also taking place but their comparative status is another matter. Of more immediate importance is determination, so far as possible, of what has caused the overall decline, whether or not it is likely to stop, and if so, how soon.

To the question what has caused this decline a quick and easy answer for a lot of people is "Harry Bridges." Like most other quick and easy answers, however, it is incomplete, no matter how big a germ of truth it may contain.

The history of economics is replete with strife. According to the Communists, the strife is made up of unremitting struggles between labor and capital. But no matter how big the struggle between labor and capital may have been and be, there is another struggle now accompanying it.

It began with the advent of the industrial revolution, and consists of the battle between men and machines. Specifically, it is the fight by men against displacement from their jobs by labor-saving devices.

Here on the Pacific Coast in the case of the Waterfront Employers Association and the ILWU it is one of the major bones of contention.

According to the contract existing between the association and the union, "Employees shall be free, so far as they desire to do so, to place into immediate use all labor-saving devices and labor-saving equipment; and the employers shall at all times in the future be free, without interference from the union or its members, to introduce such labor-saving devices"—as they consider to the best conduct of their business, provided—they are "not inimical to the safety and health of employees."

In event the introduction of such labor-saving devices takes place and is held to result in throwing longshoremen out of work, provisions exist for settling the matter by mutual union and association action or through an appeal to an arbitrator if necessary.

Nevertheless, during the past ten years there have been a multitude of work stoppages in ports up and down the Pacific Coast because of the introduction of mechanical labor-saving devices. While a substantial percentage of them have been settled by the union and association acting between themselves, more than a few have finally gone to the arbitrator.

In all but two of these "quickie" strikes arising through union objections to mechanization, the union has been deemed the violator of the contract, according to the association.

Labor Saving Devices Blamed

Labor-saving devices over which these strikes have occurred include the mechanical trimmer, and the lift truck and lift board, to name only two of them.

The mechanical trimmer is a device used in the loading of certain bulk cargoes such as nitrates. It consists in the main of a revolving disc which is attached to the end of the chute down which comes the cargo into the hold or car. As the disc revolves, it sprays the cargo evenly throughout the area, thus making it unnecessary to have several men with shovels enter the hold or car to trim the cargo by hand.

Since a total of only three men could be usefully employed in handling bulk cargo in one case involving the mechanical trimmer the employing company asked for three workers. The union, however, held that because use of the trimmer reduced the number of longshoremen who would otherwise have been handling bulk cargo, the employers were without the right to order less than the same number of men who would have been hired had the trimmer not been used.

When the case was brought before an arbitrator he ruled that the employers were quite justified in hiring only the number for which performance of the work actually called.

Because of the far wider use of lift trucks and lift-boards, much more opposition has developed over them than over use of mechanical trimmers, as the history of waterfront disputes shows.

Back in August, 1936, the longshoremen's union sought to prove that the handling of large rolls of paper by lift trucks and skid-boards formed a serious hazard to the safety of waterfront workers, and the "quickie" strike was employed by them to oppose the use of these labor-saving devices.

Though the safety factor was used as the basis of the complaint, it was obvious that the true cause was the disemployment of a number of men employed in the job of loading and stacking rolls of paper. At least, the arbitrator ruled that the operation was "not dangerous as claimed by the longshoremen" and that the "contention in regard to the danger of unloading paper is not well founded."

Two years later in Seattle a case occurred involving use of lift-boards. Thirty lift-boards loaded with cargo were waiting on the dock for transfer to a steamer. When the steamer arrived, the business agent of the longshoremen refused to permit the loaded lift-boards to be placed aboard, insisting that their loads be first discharged onto the floor of the dock, then reloaded onto lift-boards and after that placed aboard ship. Eventually the cargo was shifted from one lift-board to another, without touching the floor of the dock, and finally transferred to the ship.

Refusal to work was justified by the men on the grounds that "the movement in question was an indirect movement from ship to ship" and that "the cargo had not come to a point of rest." They further asserted that a cargo on lift-boards placed on a dock is not at point of rest. The decision in favor of the employer showed that opposition to use of lift-boards was based on the fact that a savings of manpower was effected through their use.

Though Pacific Coast waterfront history shows an abundance of cases involving the use of lift trucks and lift-boards, in most of which the decision has gone in favor of the employer, the matter continues to plague waterfront labor-management relationships. It acts as a drag on the handling of cargo and so affects a high percentage of the Pacific Coast's business and industry.

In San Francisco, for example, the "long gang" generally used throughout the Coast ports prior to introduction of the lift truck is still used.

The "long gang" consists of 16 men, four of whom are dockmen whose duties consist of hand piling cargo from flat-boards to the floor of the pier.

In the "ship gang," the term used for gangs of longshoremen in all other Pacific Coast ports except San Francisco, these four men are eliminated. The remaining 11, common to both gangs, are gang boss, winch driver, hatch tender for signaling to winch driver, six men in the hold for loading flat-boards or lift-boards, two front men who unhook the flat-boards from the line as they come over the side onto the dock, and one jitney driver who transports the cargo from shipside to its place of rest on the floor.

Obviously, in the case of San Francisco, if a lift truck is employed in piling the cargo on the dock there is no work for four dockmen to perform. In such a case one would think that the four could be used elsewhere by the employer.

But the union sees it differently. The union forbids the four men being assigned to other work on the dock or in the hold. They are allowed to perform no work at all except that which may be done on cargo coming out of the hatch. As a result they stand idle.

Right there, of course, is one of the chief causes of the persisting decline in labor productivity along the waterfront.

Though one would expect that in San Francisco, since it applies elsewhere along the Coast, ship gangs would be used instead of "long gangs," it doesn't pan out that way. For some unstated reason the unions contend that they do not have enough ship gangs available and so must furnish long gangs to do the work.

While during wartime the condition described above did alter to a certain extent with an increase in the number of ship gangs, the situation remained acute enough to culminate in the following decision by theWar Labor Board on August 18, 1945:

"The panel recommends that standard gangs should uniformly consist of ship gangs only—and that all gangs larger than the standard gang, and all longshoremen who are not members of regular gangs shall be dispatched only as ordered by the employer."

That such a decision was not applicable to San Francisco alone is shown by the following admonition of the board: "The parties should be directed to clothe this recommendation in appropriate language for the special conditions prevailing in Portland."

Reluctant Admission

Naturally the unions are reluctant to admit, and, indeed, do not admit that they are opposed to installation of labor-saving devices. Testifying before a Congressional committee's fact finding board this past spring, Harry Bridges stated that the longshoremen were not opposed to mechanization. That contention of his can be accepted as true, too, if one remembers that the longshoremen are desirous of keeping only their vested interests, their jobs.

But there is another aspect to this matter of opposing the use of labor-saving devices by longshoremen; namely, that it causes a decline in the productivity of other labor than their own.

In the ultimate sense, productivity of labor must be measured not in units of work produced, but in the relationship of those units of work to units of worth—in other words to dollars, to costs.

No matter how efficient the crew of a ship may be, for example, unless the overall costs of operating the ship on its voyage are low enough to make the voyage profitable, the productivity of the ship's efficient crew is not sufficient to justify its continued operation.

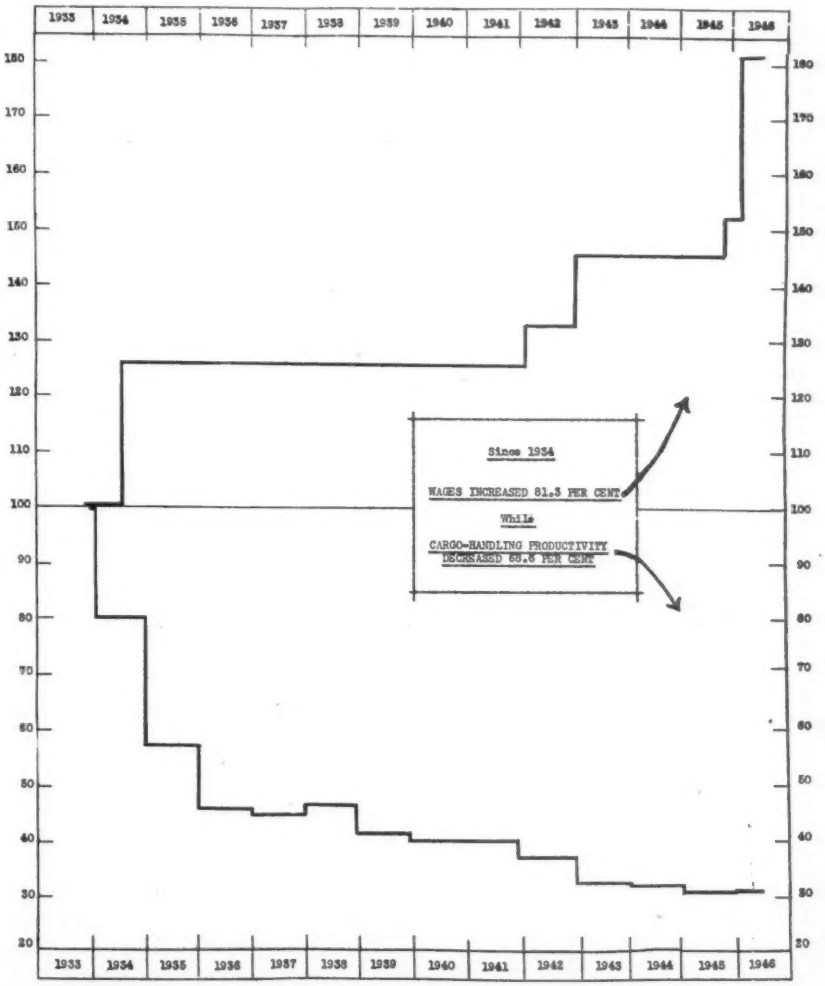
That is an obvious truism, but it is one that needs mention in the light of present events and probable future experience.

According to Paul F. Lawler, Research Fellow of the Harvard University Graduate School of Business Administration, writing in the Harvard Business Review, "The cost and competitive advantages of increased speed on the water will be largely lost unless there are better and thus faster methods of handling cargo." And again, "Freighters can earn income only while the goods are being moved from one port to another, not while the cargo is being handled at the pier."

Since the speed of ships now being constructed for both foreign and American registry is being substantially increased, it is obvious that methods of handling cargo must be increased proportionately over present methods if these ships are to justify themselves fully.

Costs of handling cargo are generally higher by far than those of operating the ship. Since a substantial percentage of a vessel's time is spent in port for loading and unloading operations, it is obvious that increased speed in getting from one loading operation to another is not going to result in greatly increased earning power for the vessel if productivity of waterfront labor continues to decline.

Accordingly, unless there is a halt in the declining productivity of longshore labor, let alone an increase, there will also be a decline in the productivity of maritime labor, regardless of how efficient it may be in itself. The same condition likewise holds true of other industries, depending upon the extent to which longshore labor is involved in their operations.



• What the CIO's "all-out drive to re-establish peace-time working conditions on the job "really means is shown graphically on the chart above. Since early 1934 wages paid to longshoremen unloading sugar at Crockett, California have increased by 81.3 per cent while their cargo handling productivity—average sacks handled per gang hour—has decreased by 68.8 per cent. Currently, acts of labor are tending still further to increase this disparity as longshoremen seek to slow down operations by "make-work" tactics.

Los Angeles Plant Accentuates The Positive—Quality Control

By CLAIR R. BAKER

CAREFULLY planned, close quality control pays dividends that more than offset its cost through resultant savings in labor and materials.

But even if it did not result in labor and material savings it would still be of vital importance to industry, for industry today is already in a period of competition in which quality of the product is becoming an increasingly decisive factor.

To produce an article of high quality, however, is not enough. After such an article is produced the manufacturer must then keep it at that level of quality and improve it if he can. To accomplish that purpose, quality control is of prime necessity.

In the plant of Pacific Tube Company, East Los Angeles, Calif., careful attention has been given to quality control, and in the cold finishing of hot rolled tubing and bars, exact methods of controlling quality have been employed. Results of these efforts have shown that production and quality can both be improved by adoption of systematic checks on materials during various stages of manufacture.

Quality in these products is difficult to define since it depends substantially on the requirements of the consumer. Some users require only the close tolerances provided by cold drawing, others need machinability, strength, serviceability, ductility, or various finishes. These requirements must all be coordinated and material processed in such a manner as to produce what the consumer feels is a *fine* quality for his particular application.

In the tubing market where there are innumerable applications, it becomes necessary for the sales engineers to obtain complete details as to the end use of the product. This information enables the mill to process each item in such a manner as to fill all of the customer's quality needs.

Each size to be manufactured is placed in the mill under a separate work order and assigned a process specification covering all the details of production. Special requirements are added to the order as may be required by the customer's purchase order or supplemented by information obtained by the sales engineer. Card records contain complete information so that repeat orders can be easily duplicated, and if it later develops that initial shipments need to be changed, the mill order and records are revised to conform to the latest information.

Upon receiving the mill order, the Production Department schedules the item and allocates the proper raw stock for its production. This raw stock is in the form of hot rolled seamless tubing, cold rolled strip, and hot rolled bars that are all purchased to the company's raw material specifications calling for close chemical compositions.

Each melt of steel is received suitably identified together with the suppliers' reports covering ladle and check analyses, grain size, hardness, etc. No raw material is released for production until the laboratory runs its own tests on samples from each melt and finds its results are satisfactory and agree with those properties furnished by the supplier.

Raw material placed in production is identified by a traveler ticket showing the work order, heat number, steel grade, raw stock size, pieces, weight, finished size, and bale number. In addition to the traveler ticket, a metal tag bearing the bale or lot number is also attached, so that positive identification can be carried through operations such as pickling, doping, and annealing that would otherwise make the traveler tickets illegible. Before each operation, the bale number on both tags is compared to avoid any mixup of orders.

After being pickled in a hot acid solution and carefully rinsed, each length is inspected for surface defects that might not be removed in the cold drawing operations. Seams, laps, shear marks, and deep pits must be removed by belt grinders prior to drawing because it is not practicable to condition the finished product.

Inspectors are trained to recognize steel defects that might result in the rejection of materials that have undergone all the operations involving valuable man hours. Where serious rejections are encountered later in the processing, every effort is made to correlate the type of defect with the original billet condition.

After it has been established that only prime raw stock has been placed in production, it becomes necessary to establish definite control practices to avoid poor quality resulting from careless or incompetent workmanship. This control can be obtained through education of the workmen and by daily checks on equipment and materials.

Many manufacturing concerns depend upon the department supervisor or inspector to uphold the quality of the product. This method of control is expensive and may not accomplish its purpose, particularly if that personnel is overloaded or does not receive the full cooperation of those responsible for production. This is frequently the case where wage incentive plans are employed.

At Pacific Tube Company, it has been found that education of the employees has shown excellent results with regard to

• When customer's exact requirements for tubing are known, quality control can give him what he wants. Below, metallographer studies the microstructure of finished tubing.





• Clair R. Baker, author of the accompanying article, and an expert on production quality control, is Chief of Customer Service at the plant of the Pacific Tube Co., Los Angeles.

quality. Picklers are taught to drain their loads carefully and remove scale without overpickling which would leave a pitted surface. Benchmen are instructed to watch their tools carefully to avoid longitudinal scores and chatter marks. Straightner operators must not only watch the straightness, but also maintain the size and prevent the rolls from marking the finished product.

Accuracy Demanded

Employees are aided in their efforts to maintain quality by close laboratory control on materials going through production. Pickling solutions are checked at regular intervals so that acid concentration is always known. Lubricants are held to a very narrow *pH* range as any breakdown would immediately result in tool galling and decreased production. Recording pyrometers on the atmosphere controlled furnaces enable the operators to obtain the desired tempers, and charges are made up from elaborate weight charts to obtain maximum heating efficiency.

After the final reduction of the tubing, it is tempered to meet the specifications. Hardness tests are then carried out to preclude the possibility of finishing material that may not have responded to the treatment prescribed by the order. This precaution has saved many hours of finishing labor on lots that had to be retreated after straightening, cutting, and de-burring.

While being cut to length, all prescribed tests called for by the specifications are made and checked by the Physical Testing Laboratory. When all physical and chemical tests have been found satisfactory, a tag is attached to the traveler certifying that material is ready for a final inspection of surfaces, dimensions, length and straightness.

It is at this point in the manufacture that results of intelligent quality control can be observed. Dimensions have been maintained, a good finish results and it is found that yields are normal. Inspection time is saved, inasmuch as delays are not encountered in segregating border line material from the prime.

Losses suffered through rejections of the finished product cannot be truly evaluated. Loss of material and labor on that portion are evident but any rejection beyond the normal expectancy results in a shortage to the customer. This discrepancy may effect mill shipping schedules, which, in turn, disrupt the production schedules of the ultimate consumer. Shortages must then be rescheduled and processed in the same manner as the original order and valuable production time is lost in tooling up for small quantities.

After final inspection has been completed, the inspectors approve the laboratory tag, and in the case of pressure tubes, indicate the test pressure to be applied.

Next, material is spark tested to verify the steel grade shown on the order and to eliminate the possibility of any steel being mixed during the processing. Tags and check sheets are marked with the notation "Spark Tested."

As packing according to standard practices is completed, check sheets are turned over to the laboratory for a final check. When required, certified test reports are made up to accompany each shipment.

Methods of control described above have proved effectual at Pacific Tube Company, working in very well with the routine duties of the employees. The system does not require a large group of trained personnel and undoubtedly has been a big factor in enabling the company to maintain heavy production schedules without sacrificing quality of their product.

• To meet competition in the steel market with long-established Eastern firms, Western concerns must make a reputation for quality. Rigid inspection and continuous laboratory inspection can keep standards high. At top, inspectors check the surfaces, dimensions, length and straightness of pipe to see that it meets Pacific's requirements, while in lower picture technicians at Pacific Tube check and analyze raw material for imperfections.





In last month's issue, Mr. Herron demonstrated conclusively that business and industry in the West need representatives in Congress who have seniority, regardless of their popularity or prestige at home.

In the following article, Mr. Herron examines the Congressional standing of specific Western Senators and Representatives which they have gained by virtue of seniority. Next month he will show how their re-election or defeat at the fall elections will affect the industry of the West.

Opinions given by Mr. Herron, a business and governmental consultant of Washington, D.C., are his own, not necessarily those of Western Industry. It is the belief of this publication, however, that they have been arrived at in the course of a sincere and careful attempt to give an impartial presentation of the situation.

Seniority Gives Power To These Western Senators, Congressmen

By Its Magic, Regardless of Whatever Other Gifts They Have, They Are Able to Ride Herd on Legislation Vital to the West

By W. G. HERRON
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WHO has the greater influence and authority in the Army, General Eisenhower or Private Jones? In banking circles, Mr. A. P. Giannini, Winthrop Aldrich or Banker Smith from Podunk? In the General Electric Company, Charles Wilson or the new stock clerk, at Plant X? In Congress, Congressman Clarence Lea or Congressman Blank recently elected the first time?

While the first three questions are so obvious as to be almost silly, many people believe that all Congressmen have equal standing because each Congressman has one vote.

In the committee rooms where the real work of Congress is done, however, differences in authority between chairmen and freshmen members of committees may actually be greater in many respects than differences between those named in the foregoing illustrations.

Such a statement naturally gives rise to the question who are the "generals," the "big bankers," the "company heads" among Western Congressmen? The answer unquestionably includes the following:

Senator Carl Hayden of Florence, Arizona, is the seventh ranking member of the entire Senate and will become ranking Western Senator, following the recent defeat of Senator Burton Wheeler, chairman of the important Senate Committee on Interstate Commerce. He is next in line for chairmanship of the powerful Senate Appropriations Committee when Senator McKellar, acting chairman, retires or is defeated. He is also chairman of the subcommittee that appropriates funds for the Interior Department with its irrigation, reclamation, and other projects of such great concern to the West.

Secretary of the Interior Krug and his bureau chiefs must justify their millions of dollars of budget requests before Senator Hayden and his committee. He is likewise a member of several other committees that handle appropriations of interest to industry in the West, and is top ranking member of Post Offices and Post Roads, as well as a senior member of Territories and Insular Affairs and other important committees.

Among the top sixth in seniority in the Senate and fifth ranking western Senator, a position of great influence in Washington, the only city in America where rank and seniority outweigh financial or social position, is Senator Joseph C. O'Mahoney, of Cheyenne, Wyoming. In addition, he is a high-ranking member of the Senate Committee on Appropriations and of its subcommittees appropriating funds for the Department of Agriculture and for agricultural projects, the Department of Interior and its projects, and for the War Department. He is also active on the subcommittee that appropriates deficiency funds for the entire government, and both general and deficiency funds for most war agencies.

Nevada's Senator

The power that goes with an Appropriations chairmanship is held also by Senator Pat McCarran, chairman of Senate Appropriations for the Department of State, Justice, Commerce, and Judiciary; also chairman of Appropriations for Labor, Federal Security, U. S. Employment Compensation Board, etc.

To his many friends in Reno, Senator McCarran is a former State Supreme Court Justice, an able attorney and a congenial companion. But in Washington, Secretaries Byrnes, Clark, Wallace, and Schwellenback and all of their bureau and division heads must appear before him as chairman of their Appropriations Committees to justify their millions of dollars of budget expenditures. So do most of the other Cabinet officers, since Senator McCarran is on nearly all of the other departmental appropriations committees. In addition, he is chairman of the powerful judiciary legislative committee. His term does not expire until 1951.

Furthermore, he is high on the roster of the important Senate committees dealing with patents, irrigation and reclamation, military affairs, judiciary, and public lands, and chairman of a special committee on production and marketing of wool. During the war he did an outstanding job as chairman of a special subcommittee of the Senate's Postwar Planning and Policy Committee to survey and recommend a solution for the problems of industrial reconversion. Incidentally this subcommittee was created by Senator George, chairman, at the request of the writer, in behalf of Western commercial organizations concerned in seeing that industry in the West should receive a "fair break" with that of the East in the opportunity for postwar reconversion.

Obviously, Senator O'Mahoney is another Senator whose great influence through his seniority on so many committees affecting the West's economy helps to make up for its smaller number of senators. His continued presence in Washington is of real value to Western business. His present term expires this year.

Senator Dennis Chavez, of Clovis, New Mexico, is seventh ranking Western senator and in the top fifth of the Senate. He is a senior member of the important committees on Appropriations, Education and Labor, Indian Affairs, Irrigation and Reclamation, Territories and Insular Affairs, and Post Offices and Post Roads. He is a senior member of the subcommittees that appropriate funds for the Departments of Agriculture, Interior, War, and the various projects with which they are associated, as well as the District of Columbia, and the Capitol.

Senator Sheridan Downey of California obtained an inauspicious start during the days of the Townsend Old Age Pension plan and various other plans for state-owned banks and socialized state operations.

But passage of time and the magic of seniority have now lifted Senator Downey to a position of great influence in Washington, through his chairmanship and seniority on important committees.

He is chairman of the Senate Committee on Civil Service, a post which he will probably retain under reorganization when that committee will be combined with the Committee on Post Offices and Post Roads which also handles problems of the postal service, the air mail and the census.

Vacancies in positions senior to his caused by the death of Senators Glass and Bankhead and defeat of Senator Radcliffe now place him in position to become Chairman of the Senate Banking and Currency Committee, if and when the chairman, Senator Wagner, retires. He will also then be within three places of the chairmanship of the Military Affairs Committee, under continued Democratic control.

He is an important member also of the Senate Agriculture and Irrigation and Reclamation and Interoceanic Canals committees, posts which he may lose, however, when all senators have but two committees under the new rules.

Senator Downey has gained much stature in the Senate through his masterly presentation of California's position in the terrific battle he fought with Senator Tom Connally, chairman of the powerful Senate Foreign Relations Committee, in the epic Mexican Water Treaty case.

Senator James Murray, Montana, whose term expires in 1949, colorful fighter for independent mining operators against the big companies in the early days, still a champion of small business, and reputedly one of the Senate's richest men, will rank fourteenth in the 80th Congress. He is chairman of Education and Labor (reorganized as Labor and Public Welfare in the next session), ranks fifth on Foreign Affairs, sixth on Military Affairs, fourth on public lands.

Senator Elbert Thomas, Utah, whose term expires in 1951, is a former professor of political science at the University of Utah and as a young Mormon missionary in Japan learned the Japanese language. He was the only one in the 79th Congress who knew enough Japanese to go on the air in the OWI's short-wave broadcasts to Japan. He has served on important governmental missions to various countries. He shares tenth ranking position in the Senate with McCarran of Nevada, is chairman of Military Affairs, second on Mines and Mining, third on Education and Labor, fourth on Foreign Affairs. He will probably retain his position on the military and foreign affairs committee under reorganization.

The handicaps of freshmen beginnings are always cured in Congress by the power of seniority, which endows its possessor with automatic authority proportional to the grade of his seniority of service.

Western Representatives

Dean of Western representatives, and probably the most influential, who, by his seniority, presides at any general meeting of the 49 Western members of the House, is Representative Clarence Lea of Santa Rosa, California. He has served continuously for 15 consecutive terms or nearly 30 years. For most of these terms, he was the nominee of both Democratic and Republican parties, as at the 1946 primaries, when he was re-elected for his sixteenth term.

His position in Congress is of great importance to the West. Representative Lea is chairman of the very important House Committee on Interstate and Foreign Commerce.

The tremendous volume of work of this committee for years has been apportioned among its 10 standing subcommittees on aviation, transportation, petroleum, public health, interstate bridges, brand names and newsprint, Federal Trade Commission, Federal Power Commission, Interstate Commerce Commission and Securities and Exchange Commission—all of which affect Western transportation, business, and industry.

Over a year ago, the writer completed an original survey classifying all of the several hundred standing subcommittees of Congress by fields and functions, thereby discovering that there had never been in Congress a legislative subcommittee with a chairman to deal specifically with the two principal operations of business and industry—those involving (1) production and (2) distribution, domestic and foreign. Nor had any business organization previously requested it. In other words, there had been no special champion for foreign or domestic trade, to work on trade problems in Congress.

Upon the writer's presentation of this situation to Representative Lea in August, 1945, Mr. Lea, after securing approval of his committee, created the large standing Subcommittee on Commerce and Trade, headed by Representative J. Percy Priest, a very capable senior member and former newspaper man of Nashville, Tennessee. Only Western member of this subcommittee is Representative Richard Harless, Phoenix, Arizona.

This new committee has been given jurisdiction over operations of Secretary Wallace and the Department of Commerce and all legislation involving the problems of domestic and foreign trade, including

• Powerful as presidents, senators, and representatives may be, those who put them there or throw them out are voters like these.



those of production, marketing and distribution.

Its acts can vitally affect the entire future of industry in the West. Fortunately, a continuance of fair treatment for the West in matters handled by this important new subcommittee is assured, at least in the 80th Congress, by Mr. Lea's re-election at the recent primary.

Long range development of Western industrial production and promotion of both domestic and foreign markets for Western products require that there be more Westerners on the parent Interstate and Foreign Commerce Committee available for membership on his subcommittee on Commerce and Trade.

Enlargement Due

Actually this subcommittee should be enlarged from its present ten members to 16 in order to provide at least one member from each of the 16 major industrial and trading areas of the country. Problems of each of these areas are so different, each from the others that only in this way can their separate industrial and trade interests be effectively served.

Washington still thinks of the West as a vast area of wide open spaces, for which one Federal Reserve Board district should suffice. But Washington is behind the times. As a result of the war the West is now made up of five economic areas each as definable as those of New York, Boston, Philadelphia or Chicago. Accordingly, each of these five new Western trade areas should have its own representative on this important subcommittee on Commerce and Trade.

There is some realization in the east of the need for this subcommittee. By coincidence, the Commerce and Trade Association of New York discovered the need of such a committee and not knowing it already was initiated in February of this year, urged its appointment. The association deserves much credit for its interest and cooperation, as do the other national foreign trade groups who have assisted the writer in his capacity as consultant to the chairman of this subcommittee in the organization work of this committee.

Appropriation Subcommittees

Probably as important as Mr. Lea's chairmanship of the House Committee on Interstate and Foreign Commerce are the chairmanships of three appropriations subcommittees held by another Western Representative.

Much the same influence accorded to bankers everywhere is given to an occupant of these posts, Representative Harry Sheppard of San Bernardino and Yucaipa, California, chairman of the House Naval Appropriations Committee, House Maritime Commission Appropriations and War Shipping Administration Appropriations. Mr. Sheppard can amend an item of an appropriation bill to the extent of a million dollars or more up or down by a nod or shake of his head. During the war, one committee he headed appropriated $63,000,000,000 for the Navy.

As the senior and only Western member of House Agricultural Appropriations, he is the one House member whom farmers of the agricultural West can expect to protect their interests in providing adequate funds for agricultural subsidies, Western experiment stations, forestry, pest control, and the hundreds of matters of concern to agriculture. This gives him tremendous power in seeing that his district and the West receive everything to which they are entitled.

Upon the recent defeat of Representative Tarver of Georgia, Mr. Sheppard now advances to the position of senior member of the Agricultural Appropriations Committee. Thus he can accept its chairmanship, if he so desires, and surrender his chairmanships of the Naval, Merchant Marine, and War Shipping Appropriation committees.

If he does so, the new chairman of these committees would be Representative Thomas of Texas, whose statements in the printed hearings are not friendly to the West.

Great Expectations

If that happens, then both industry and labor in the West can expect an immediate curtailment of Western Naval contracts for shipbuilding and repair and other Naval industrial contracts. They can also expect a lessening of interest by the War Shipping Administration in the problems of Western ship operators and in the disposition of government-owned vessels in a way that would benefit the West.

They can look also for the Gulf and East Coast to receive increased business as they did during the years immediately after the First World War.

They can also look for the same results if Mr. Sheppard is defeated, and the new chairmanship goes to a non-westerner under either Democratic or Republican control.

The chairmanship of two unofficial Western coordinating committees, the Joint Pacific Coast Tri-State Committee and the new 7-State Committees, have given Mr. Sheppard added influence enabling him to obtain united Western support for appropriations for Western naval construction, Navy industrial contracts, ship repair, operations, allocations of vessels to the Pacific Ocean, Mexican farm labor, and agricultural benefits that might otherwise to a large extent have gone to other sections of the country.

Mr. Sheppard, whose term expires with those of all other representatives this year, could be *displaced* as a chairman but not *replaced*. With the exception of Representative Lea, he is unquestionably the most powerful Western representative. No successor to any of these chairmen could automatically succeed to these powerful committee positions, for he would have to start at the foot of the ladder, so to speak.

From the foregoing it is apparent that great power attaches to committee chairmen such as Messrs. Hayden, McCarran, O'Mahoney, Chavez, Downey, Lea, Sheppard and others. Unfortunately space does not permit similar reports on all committee chairmen from the West. Their biographies, however, may be found in the 1946 issue of the Congressional Directory, available from the Superintendent of Documents at Washington, D. C.

Senior Members

Supplementing the importance of such men to the West is the high degree of influence also exercised by ranking and senior members of committees.

Because of the influence of these committee chairmen and ranking and senior members of committees the West has been able to enjoy a degree of power in Congress that is far greater than its comparatively small portion of votes in Congress would normally justify.

A complete list of chairmen of the 17 committees of the Senate and House, headed by Westerners, is as follows:

Chairmen are: Senators — Wheeler, Montana (now defeated); McCarran, Nevada; Downey, California; Hayden, Arizona; Hatch, New Mexico; Murray, Montana; O'Mahoney, Wyoming; Thomas, Utah; and Representatives—Lea, Sheppard, and Engle, California; Murdock, Arizona; Coffee and Jackson, Washington; White, Idaho; and Robinson, Utah.

Westerners who are senior members of committees are Welch, Gearhart, King, Elliott, Tolan, Izac, Voorhis, Anderson, and Hinshaw, California; Angell, Oregon; Dworshak, Idaho; Chenoweth, Hill, and Rockwell, Colorado; Granger, Utah.

All those enumerated above are men with three or more consecutive terms that place them high on committee seniority lists.

Junior Members

Junior members, especially in the House, have comparatively little influence even in the limited jurisdiction of their own committees' field where they usually remain for a considerable time with little more authority than that of a shavetail. Consequently, most newly elected representatives do not work wonders in Washington regardless of any pre-election promises they may have made to voters.

Manifestly, then, the only Westerners who can protect the West's interests in Washington are those who hold chairmanships, or ranking or senior positions on the various committees concerned with problems that affect the West's economy.

And it is equally manifest that seniority of service, which comes only from continued re-election of capable members of either party, is the most effective long-range answer to the West's industrial problems involving governmental action in Washington.

"Cyclone" Pulls Dust From Western Plant

APPROXIMATELY 9,000 tobacco pipes a day are buffed, sanded and machined by 35 workers at the Briarwood Corporation plant in Palo Alto, California, but dust never bothers the workers, rarely even hits the floor.

A blower system draws off dust the instant it rises from the individual machines transferring it to the outside of the building where it is disposed of by a specially designed "cyclone," reportedly better than 96 per cent efficient.

The system consists of four blowers, each of which is placed at the end of the bench it serves, the tubes connecting the blowers with the cyclone, and the cyclone itself.

Three of the blowers, each serving 14 bench stations, have 35-inch fans and are powered by 6 hp. motors. The third, which serves a six-worker bench, has a 30-inch fan and operates on a 4 hp. motor.

Combined strength of these four motors sends a stream of 18,500 cubic feet of air a minute through the system and into the cyclone. Such an airflow, originating within a few inches from the operating end of each grinding, buffing or sanding machine in the shop, makes it virtually impossible for dust to rise from the machine.

Function of the cyclone is to remove the dust from the air after it is carried to the outside of the building. Unless the dust were removed, much of it would soon find its way back into the plant. At the rate of flow the entire air content of the plant operating room is changed once every 14 minutes. Hence, even though air were brought into the plant from the opposite side of the building, used, dust-laden air would frequently be introduced if the cyclone were not employed.

How the cyclone works may be seen in a study of the accompanying diagram: Tubes labeled A, B, C, D, carrying dust-laden air to the outside of the building are led into the cyclone at different levels. Brought in at an angle, their air streams are directed around the inner circumference of the cyclone. This prevents the air stream from striking the exit column F which would deflect them and create a jumble of air currents, gravely impairing the efficiency.

As the air streams circle the inner circumference of the cyclone they gradually sink lower and lower towards the bottom of the exit column. At the same time the heavier particles of dust begin to react to gravitational pull descending towards the aperture G at the bottom. When they reach the aperture they are carried out of the cyclone into a container.

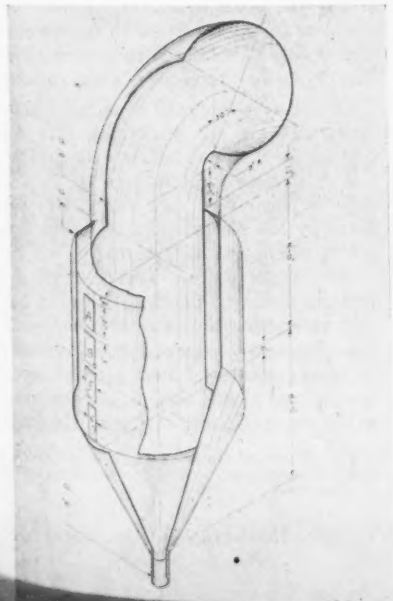
Although some air escapes through the bottom, the opening is too small to accommodate more than a fraction of that taken in through the blower tubes, and the balance of it must find its way out of the cyclone through the exit tube that rises perpendicularly through the roof of the cyclone.

Instrument efficiency has been determined through measuring the total amount of dust in a given cross section of the air streams at the point of intake, and comparing those measurements with cross sections of air escaping through the exit tube. The comparison establishes the amount removed as being a little better than 96 per cent.

Installation of equipment was conducted by the Spangler Sheet Metal Works of Palo Alto. Blowers and motors were furnished by the Ilg Electric Company, which also did the engineering work on the cyclone.

• Through openings A-D, dust-laden air whirls into "cyclone." Dust sifts out at bottom while air escapes through top opening.

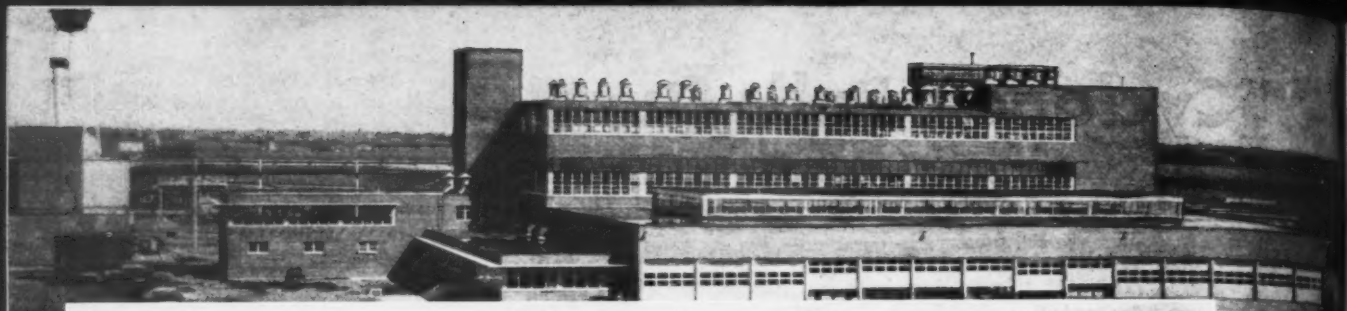
Drawing courtesy Isogonica, Inc.



• From each work bench, shown in close-up below, a stream of air is sucked past the machine carrying all dust with it into the blower system that empties in the "cyclone." Thus the entire workroom, seen in bottom picture, has a uniform, dust-free air content.







Industry Grabs the Grass Roots Advantages of Western Towns

By STUART PARRY WALSH

"THE West Coast doesn't make sense to a man in Philadelphia."

That's what an able industrialist from the Quaker City said to me when he called at my office a few days ago.

"We could understand the war boom on the coast," he said. "Your shipyards and aircraft factories were like having a circus in town—when the show was over the people would go away and business would settle back in its prewar groove. But that hasn't happened. The main tents were taken down a year ago, but there are still big crowds in the side-shows, with new ones starting up every day.

"Not only are these side-shows starting up in your big cities, but they are moving into little towns in the back country that nobody ever heard of. Eastern firms seem to be building new factories at every wide spot in the road, and local people are putting up money for new industries of your own all up and down the coast."

"Almost any place in the West would seem to be remote enough as a factory location without going clear out in the wilderness. Why should a bathroom fixture firm from Pittsburgh build a plant at the foot of the San Bernardino Mountains in California? Where is Nyssa, Oregon, and why is Avoset, Inc., subsidiary of California Milk Products Co., putting a million and a half into a drug plant away up there?

"Why should a garment factory locate in a place like Manti, Utah? How did a resort town like Riverside, California, get Sylvania Electric's new Coast radio plant? Do these things make sense to you?"

Yes, they make a lot of sense. The spread of industry into the wide open spaces of the West is one of the most sensible things that ever happened. The trend toward "factories in the country," as Frank Taylor titled it in a recent Saturday Evening Post article, is not peculiar to the West. It is a nation-wide development, though it is probably a little more dramatic out in the orange groves of San Bernardino County than it might be in the neighborhood of Philadelphia. For communities in the West, where continued employment for expanding population is a compelling urge, this decentralizing trend spells real opportunity if it is properly analyzed and understood.

The benefits to small communities resulting from the location of factories in their midst are becoming widely recognized. Such factories broaden and diversify the base of a local economic structure which may have been built mainly upon agriculture, mining or lumbering.

These factories help to carry the burden of state, county and city taxation. They bring in their train a variety of jobs in the trade and service fields and the professions, increasing the revenue of local stores, restaurants, laundries, and service stations.

Factories Benefit

But through invasion of small communities the factories themselves benefit greatly. A new factory in a small town or city brings a new relationship between work and leisure. The plant is not a dingy building on a crowded street. It is a light and airy work place within easy walking or driving distance of every worker's home. Supervisors and bench hands are neighbors; they take part together in civic and recreational affairs. They tend less to divide into "labor" and "management" classification, becoming more like "just people," playing their different positions on a close-knit team.

There is plenty of time after work for the pursuit of hobbies, and plenty of room to pursue them. There are fewer frustrations and irritations; the whole pattern of life is a happier one than it could be in a congested metropolitan center. That all this adds up to more efficient production is amply attested by the experience of firms like Sylvania Electric, General Motors, and many others. The Owens-Illinois Glass Company, recognizing the benefits of such moves, is currently planning to establish a closure factory at Santa Rosa, California, where it can obtain all the small town advantages.

Many of the plants that are going into western communities will process foods, fibres, minerals, or timber produced in the immediate vicinity, which have formerly been hauled to other areas for manufacture. The Avoset plant at Nyssa, Oregon, will use 300,000 pounds of local milk a day to make drugs and milk products which can be transported in comparatively small bulk to major distributing centers. Scores of new quick-freezing plants are in this same category.

But there are also many "footloose" industries whose location is not related to the basic products of an area or to immediately adjacent local markets. Some of these are the so-called "light manufacturing" plants whose output is small in unit bulk and weight. Thus freight rates or sources of supply of component parts are not the determining factors in plant location. The Belding Hosiery Mill at Redlands, California, is an example of this type.

Other industries, in which shipping costs are important, are locating away from metropolitan centers because they expect to offset higher transportation rates by avoiding the delays of congested areas and by the better morale and greater productivity of wokers living in small towns. Universal's plumbing fixture plant in the San Bernardino foothills is a case in point.

Of course, the spread of industry to the countryside is not something that will happen inevitably to benefit every town or county. Unless local leaders are alert to their opportunities, new plants will pass them by for places where the attractions are more effectively presented.

It was not destiny, for example, that brought industrial plants in large numbers and variety to Santa Clara County or to San Bernardino County in California.* It wasn't accidental that a dozen good-sized plants picked sites in the little towns of Malheur County, Oregon (Nyssa is

*The full story of San Bernardino County's surprising industrial growth will be told in next month's *Western Industry*.

• Increasingly typical of Western towns is this factory scene at Tracy, California.

Photo courtesy H. J. Heinz Co.

one of them) or in many other places where agriculture and mining had been the only productive pursuits.

Behind these developments there are concerted planning and hard work by state and local officials, chambers of commerce, special committees, and individual citizens interested enough in industrial development to do something about it.

Three Basic Steps

What are the essential factors that assure such results? On the evidence available, the following list can be made:

1. *The local Chamber of Commerce must take vigorous action,* usually through a strong industrial committee headed up by a chairman possessing the knowledge and the ability to get things done. This committee, with the aid of all the fact-finding resources that are available, must make an inventory of what the community has to offer, and also what it needs. The facts thus developed must be clearly presented to local service clubs, veterans' organizations, and to the citizens generally, through mass meetings and the local press.

2. *County and city officials must be "industry minded."* Tax rates, building codes, fire protection, recreation facilities, flood control, zoning regulations, highways, water supply, and other vital services are controlled by city councils and boards of supervisors. Local government must play an important part in industrial development.

3. *Contacts with prospective industries must be established.* This does not necessarily mean a nationwide advertising campaign or sending expensive literature to long mailing lists. Such things can be done by the larger communities where substantial funds can be raised, but even some of these communities go about their promotional job along other lines.

In most places there are several powerful agencies that can be enlisted without cost, needing only to be furnished with adequate facts and the evidence of solid local backing. Chief among such agencies are the railroads, which own large amounts of industrial properties, the major truck lines, and the large utilities, both public and private. These agencies can seldom favor one community over another but they are anxious to recommend locations where they feel their clients will receive the warmest welcome.

A Practical Inducement

A comparatively new type of community planning for industry is the Central Manufacturing District, of San Bernardino, California, a 700-acre tract of land adjacent to residential areas and well served by local transportation. Purchase of this tract was financed jointly by local business men, a national firm of industrial engineers, and two eastern concerns which wanted to acquire acreage in it for their new plants.

Sites in the plant will be offered for sale or lease at fixed rates when essential roads and utilities have been installed, thus removing the factor of speculative pricing which so often hampers the acquisition of plant sites. The tract will also be a restricted area as to the character of industries admitted, so that there will be no danger of junk yards or fume-making chemical plants being among the neighbors.

Local bankers, merchants and agriculturists are often potential agents for the securing of new industries; they have many contacts and acquaintances that can be usefully put to work if such efforts are vigorously encouraged. Here again essential facts must be made available and the objects in view must be well understood.

Finally, there are the local enterprisers and capitalists who have the ideas and can get the money to establish home-owned plants. In most cases these plants will be of the type that is related to basic products of the locality, but they will provide for the processing of these products where they originate rather than sending them in their raw and bulky state to plants in distant cities.

Just how extensive is this trend toward decentralization? There is no complete official record, but at least a good part of the story can be put together from "The West on Its Way" reports in *Western Industry*. Taking the first eight issues of 1946, and eliminating multiple references to the same plants, we get some interesting figures. A total of 385 new plants and expansions were reported in these eight months—190 in the metropolitan centers of Southern California, and the rest divided between Denver, Salt Lake City, Portland, the three major cities in Washington, and the metropolitan area around San Francisco Bay.

Figures Don't Tell Whole Story

In the same pages there were 420 new plants and expansions reported in smaller cities and towns; 96 in northern California, 70 in Oregon, 57 in Washington, the same number in southern California, and 140 scattered throughout the other western states.



• Stuart P. Walsh, former economic counsel to California's Department of Justice and Commissions on Reemployment and Interstate Cooperation, is currently vice president in charge of the San Francisco office of J. N. Mills & Company, consulting engineers.

Most of that information comes from the local metropolitan press and from chamber of commerce publications, which means that the bigger cities and their surrounding areas probably get the best coverage. Because of that, the above figures do not tell the whole story, and are probably not adequate for purposes of accurate comparison between one area and another. But they are indicative, however, of the extent to which this trend toward factories in the country has gotten under way—and here are definite reasons for believing that it will continue.

If Geneva wins its fight for lower freight rates on steel, there will probably be a good many new steel fabricating plants spring up not only in Utah but throughout the West. Similar results may come from current developments in the light metals field. There is no reason to think that food processing, or garment making, or chemical manufacture, or a dozen other kinds of industry have reached their peak in the West. It seems likely that at least half of the new plants to come will continue to find sites outside the larger metropolitan centers.

A Word of Caution

As to whether this trend might go too far, John P. Renshaw, an industrial analyst writing in the 1946 issue of *Bay Area Business,* has this to say: "Just as a car needs brakes as well as a motor, so it is necessary that small cities and rural areas planning industrial expansion do not try to overdo it. A balanced economy serving the best interests of a particular community in the long run can only be attained if there is a reasonable proportion between agriculture, service trades, and well-managed, diversified industrial concerns which can be counted on to give stable employment."

The idea of moving to the country spreads in "chain reaction" form among industrialists themselves. "Come out and build a plant near mine," a machinery manufacturer urged a friend in the book match business. "I've got a better idea," his friend replied. "You've got enough neighboring plants already. I am going to a smaller place and build the first factory in the town, to get all the grass roots advantages you had when you first moved out yourself."

Power companies, railroads, chambers of commerce, state and county development commissions, and industrial real estate agencies all over the West are learning what it takes to bring factories to the wide open spaces. Columbia Empire Industries and other regional development organizations are also at work. None of them are likely to stop until a good many more industries are at the crossroads—to stay.

Research Service For Northwest Power Users

TOPFLIGHT research informational services are now being offered free to industrial customers of privately owned electric power companies in Washington, Oregon, Idaho, Montana and British Columbia.

The service consists of aid on specific problems in technical, economic and marketing fields.

Made available by an organization known as the Research Advisory Service, through member power companies of the 35-year old Northwest Electric Light and Power Association, the service will give commercial and industrial users of electric power full and immediate access to a vast fund of non-confidential scientific and technological information.

Where It Comes From

Fields of specialization of over 900 cooperating laboratories in the United States, Canada and Great Britain have been catalogued and indexed so that information pertinent to a customer's problem can be sifted out for a speedy answer. Full contact is maintained with colleges, universities and branches of the Federal Government.

Naturally, problems of law and medicine are not handled, and when customers' problems indicate a need for services of professional consultants or commercial testing laboratories they will be sent names of specialists in those fields with whom they can make their own arrangements.

No limit is set on the size of organizations that can avail themselves of the service, but since the greater number of industrial users of electricity in the area are small companies without the resources to maintain extensive technical staffs and research laboratories, it is expected they will form the bulk of those taking advantage of the offer.

How an industrial user of electric power obtains the service is very simple. When an industrial or commercial representative of the local power company makes his regular calls, the customer merely describes the problem on which he needs aid.

The power company representative and the customer then write a letter to the power company requesting research service and describing the problem. On receipt of the letter the power company immediately forwards it to the Association's Research Advisory Service office, which, in turn, routes it to the laboratories specializing in the indicated field of work.

Identity of the inquirer is not revealed to the laboratories to which the problem is sent. Immediately the answers are received from the laboratories, they are compiled into a report which is sent back to the requesting power company which delivers it to the interested firm.

Preliminary test offerings of the service have already demonstrated its need. Since the Research Advisory Service has nothing to sell, users are assured of getting unbiased information. So far one firm has requested information on how glass wool compares with balsam wood as insulation for refrigerators; another has asked for available information on how to avoid excessive burning of steel needles employed in sewing waterproofed, fireproofed and mildew-proofed canvas; a third has asked for a plastic molding material which can be used for duplicating pearl buttons with identical properties and appearance.

Credit for starting this service for power users goes to Ladner V. Ross, manager of the industrial development department of the Washington Water Power Company, Spokane, who has been released part time to organize and operate Research Advisory Service as its Director.

How It Started

During the war while Ross had occasion to use a technical advisory service furnished by the Smaller War Plants Corporation. That service was the same as the Research Advisory Service which had been created by Bert H. White when he was vice president of the Liberty Bank in Buffalo, New York, back in 1937, but converted to wartime needs. The service had proved so successful under White's guidance that by the outbreak of war it was being used by 16 banks throughout the country. When White went into the Army, he was asked to make the service available to the SWPC, which used it under a different name.

Seeing how successful the service was, Ross decided that it could be just as useful to customers of power companies as to those of banks, and White promptly agreed with him. Accordingly White is now personally supervising the organization of the service for power companies.

For those inclined to say "There just ain't nothin' free," or "You always pay for what you get" when told of this offer, the power companies have a satisfactory reply.

They are going to spend money, their own, in promoting the benefits of Research Advisory Service. The promotion will take the form of advertising programs to supplement the personal contacts of their industrial and commercial representatives. Radio time, newspaper space, direct mail and hand-out folders will all be used.

Where the pay-off will come for the power companies is in long range returns from more prosperous communities.

• By research service for power users, Northwest power companies expect to better industrial conditions and power sales. Below, Joe Hartz, Navy vet, removes floor lamp casting from mold at Spokane plant of Columbia Electric & Mfg. Co., advisory service user.



Westerner's Oxygen-From-Air Process Usable Industrially

WARTIME search for an oxygen indicator usable on submarines has resulted in a method of extracting oxygen from the air that may prove of commercial and industrial use. Professor Melvin Calvin in experiments carried on at the University of California at Berkeley developed the method. Some of the research was carried on at other universities after the project had been approved for wartime research by the National Defense Research Commission.

Chemical Absorbent

The new method utilizes a chemical compound which absorbs oxygen from the air and gives off pure oxygen on being heated. Mechanical units to contain this chemical can be built of any size and can be mounted on mobile units such as trucks or planes if desired. The heat required for operation is low, thus hot water or steam from any available plant process can be diverted to supply heat for the oxygen unit.

By arranging two or more producing units in parallel, a constant flow of pure oxygen can be obtained by synchronizing their absorption, or the oxygen can be stored in tanks and thereafter used as needed. In such a case it is possible to equip the unit with automatic controls operated by the pressure in the tank so that a constant supply is maintained.

Chemical used can produce to half life approximately 100 lb. of oxygen per pound. At this point the remainder of the chemical can be re-constituted at the point of manufacture, thus effecting a saving in the initial cost.

Operation of an oxygen unit is extremely simple, requiring no training, and if operated manually, requires little more than the opening and closing of valves. As mentioned, the unit can be made to operate automatically by pressure control, thus eliminating all but occasional servicing and the changing of the chemical. This latter is accomplished by removing the cartridge in which the chemical is packed and inserting a new one.

Cost of this type of production is twofold. The initial cost of installation is small and maintenance costs are negligible. The continued cost is that of the chemical and this should decrease materially as production is expanded. At present the cost of producing oxygen by this method should prove satisfactory in cases where transportation costs are a factor in the consumer's price. It is believed that with the expansion of this method the cost should meet or be less than that of current methods. It is felt also that it would have the added advantages of low initial outlay, minimum upkeep, safety and ease of operation as well as mobility of the producing unit if desired.

Advantages of this production method are obvious for such places as relatively remote air bases where units can supply oxygen for both flying and repair. Obvious, too, is the advantage to areas located at a distance from metropolitan centers, as for example, industries in many small western towns.

Kind of chemical used is one of a group of compounds known as chelate (keelates) which are formed by the attachment of a metal atom to an organic molecule composed of carbon, nitrogen, hydrogen and oxygen.

Behavior of this chemical is very similar to that of the hematin of blood which becomes bright red as it absorbs oxygen and returns to a bluish color as the oxygen is removed. The chelate compound, in the form of red crystaline granules, becomes black on absorbing oxygen and again returns to red on removal of the oxygen.

How one makes use of it is to place it in a cylinder surrounded by a water jacket. Air is then forced through the cylinder. As the oxygen is absorbed, the chemical becomes warm and its absorption capacity is decreased. To offset this, cold water is run through the jacket until the chemical has absorbed oxygen to capacity, at which time the air inlet is closed; the cold water is replaced by hot water or steam; the outlet is opened and pure oxygen is released.

Used by Navy

During the war, a unit was produced for operation on a Navy destroyer tender and was utilized for ship repair work in the South Pacific where regular repair bases were not available.

Experience revealed several advantages such as ease of operation, low maintenance costs and mobility. At this stage in its development it is felt to be particularly adaptable to those industries located at a distance from a compressing plant, and to mobile units such as planes and trucks.

It is anticipated that as the cost of the chemical decreases with accelerated production, the process will be able to compete on a favorable basis with other current methods of producing oxygen.

• For jobs on which equipment transportation costs are high, Dr. Calvin's wartime-developed method for extracting oxygen from the air can provide a considerable saving. Practicality of the method has already been proved through use at South Pacific bases during the war. Installation costs for process are low. Chief cost item is price of chelates.
—Photo courtesy Victor Equipment Company



Social Security Is Not Enough

By EDWARD C. KLINDWORTH
Personnel Manager,
Jantzen Knitting Mills, Portland

OUR pension plan was started in 1934, before the days of social security, but in 1938 it was amended to allow for social security; in other words, we tapered our plan down so that it would augment social security, because the employee and the employer would have had to really contribute too much when they had to contribute to both our own pension plan, which we have with an insurance company, and the social security program.

I think most people will admit that the social security program is not sufficient by itself. Women retire at 60. That may be a defect in our plan, but that is part of it, and, of course, the only pension they would have then between 60 and 65 would be our pension, which would be inadequate. As I say, that may be a defect. We haven't found a way to solve that as yet. But, of course, when they got to 65 they would have social security in addition to ours. Men retire at 65. The employee contributes about 1½ per cent to this plan. The employer contributes on the average a good deal more. It has averaged from 1½ to 2 per cent, but it is going to get higher in the future.

There was a provision that employees who had been with the company 25 years could, with the consent of the company, retire and receive the full benefit, and any employee who leaves the company gets all the money back that he has put in, plus 3½ per cent interest. That is unusual and probably too high, but we started with the 3½ per cent plan back in 1934 and we have maintained it.

The insurance company now will only give two per cent, so the balance comes out of the company's pocket. I don't know that this is right, but it is what we did. I think it is better to be realistic about it. The interest has gone down.

Employees coming in since the plan was changed should probably only receive the 2 per cent interest, but in our case even the new employees receive 3½ per cent, which they couldn't get anywhere else on their savings, if they leave the company. After a person has been with the company 25 years, he gets not only the benefit of his own contributions but also the full benefit of the company's contributions in the form of a pension. He gets whatever that contribution has bought up to that time.

It used to be that this had to be with the consent of the company. It has now been altered so that it applies to anybody who has been with the company 25 years. I don't care how obnoxious a person is, he gets the full benefit of his own contribution and the company's contribution, which in many cases would amount to quite a good deal, even though he is not 60 in the case of a woman or not 65 in the case of a man.

Liberal Provision

We have another provision that is taken away from the company's discretion altogether, namely that a person who has been with the company 15 years only but who is within 10 years of the retired basis can leave the company and get the full benefit of both the company's contribution and his own contribution. That was looked upon originally as a nice provision for the company, because sometimes you might have a person who was within a few years of retirement but was feeble and couldn't do their work very well, so that thereby you had an instrument whereby you might give them something in the way of a pension.

Now they can leave, regardless of whether you want them to leave or not, if they are within 10 years of retirement and have been with the company 15 years. In other words, we have taken out the paternalistic thing altogether. It really makes the plan very much better. Wherever you can take out paternalism, take out the paternalism.

Group Insurance

We have group insurance that dates back to 1926. The maximum rate per thousand is 60 cents and the current rate for a number of years has been 50 cents per thousand, and that includes permanent total disability, which you can't buy now. Recently we had a woman who had a stroke when she was 57 years of age. She had $1,000 of this insurance, which she collected, and on top of that she got a refund because she had been with the company more than 15 years, so you see she got the maximum benefit.

One thing I want to mention as far as these benefits are concerned, particularly pension benefits and some others, is the concern that some of us are facing regarding the cost in the future. With the possibility of cost of social security going up and with the insurance companies charging higher rates for pension protection because of the lower interest return that they are getting, and because of the longer life of people, it is a problem that we are going to be faced with in the future.

Here are things which employees are buying, to which we are contributing very substantially and which we have got to put in the cost of the goods. It is a problem that industry has to face, because regardless of these benefits they will want more money in their take-home pay.

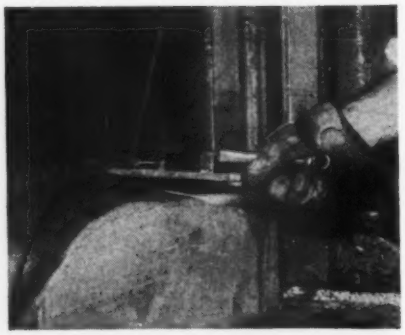
EFFICIENCY KINKS FROM WESTERN PLANTS

Production short-cuts • Worker's suggestions • Prize-winning awards

Invention of a new tool by G. Lee Linzey of the hammer department at Solar Aircraft, San Diego, is expected to help control injuries in this department.

The device, used for removing stampings from the hammers, is called the "Safe-T-Tool." It is a combined pry bar and tongs which enables a drop hammer helper to pry up and remove sections from the drop hammer dies without exposing his hands over the die area.

Accidents of varying severity have resulted when the hammer-head was dropped



while helpers were removing pieces from the dies. In addition to its safety factor, the Safe-T-Tool makes it easier to remove pieces which may be jammed in the dies.

The metal used in supporting rings on automatic fire extinguishers and which melts at a temperature of 170 degrees Fahrenheit is now used in experimental tooling work.

As discovered by aircraft companies during the war, the metal, an alloy of bismuth, lead and antimony, can be used for forming blocks durable enough to last while three or four experimental parts are hammered to pattern. Blocks are formed by pouring the alloy in plaster molds.

Another important use for the alloy is in the bending of tubes. An empty tube when bent collapses and doubles up like a garden hose.

Easiest way to avoid this, it was found, was to fill the tube with the alloy. When the alloy had hardened in the tube it formed a sufficiently strong metal core so the tube could be bent without buckling.

Removal of the core consisted simply of holding the tube under a stream of boiling water, causing the alloy to flow out quickly.

Glued Unit Loads Used In Light Commodity Shipments

USE of glue as a binding agent for securing shipments of light-weight commodities is certain to stick in the materials handling field for a long time to come.

Regardless of any accusations of punning, such a description of the future of adhesives in this particular field, if it errs at all, errs only on the conservative side.

In actual practice, use of the "unitizer" loading system, which consists simply of lightly gluing together individual cartons so that they form a single unit, is already proving itself highly successful.

As an illustration, the shipment of a carload of nearly 1800 cases of wine from California to New York without the breakage of a single bottle may be taken as fairly typical of the efficiency of the glued unit method.

Incursion of glue into this new field came about as the result of an acute wartime need for a substitute for steel strapping in shipping palletized loads of material overseas for use of the armed forces. Because use of glue involved no critical materials or special equipment for application—it can be applied with a brush—and because it held the loads together on the pallets it sprang into widespread acceptance. From use on palletized materials in war it was a natural step to its use in peacetime shipments of unpalletized loads which are termed "unitized."

Unitizing Method

"Unitizing" is merely a "method of securely locking conventional loads of corrugated, solid fiber or wooden shipping cases, as well as paper or fabric sacks, into stable loads with glue." Through being "unitized" the longitudinal shifting of the load in the freight car or carrier is controlled rather than prevented. Though the load will shift slightly with stresses, it does not break.

If the containers are oblong in shape, what is known as the bonded block method, described in Pamphlet No. 13 of the Association of American Railroads, Freight Loading Container Section, is employed in stacking the cases. By this means the unit is less subject to strain than otherwise. But when square cases are loaded the same effect can be obtained through using the top tier as a cap and starting it half a case length from the end of the car.

Bracing or bulkheading is not necessary and should be avoided. Each tier of cases is placed tight against the side walls of the carrier to assure maximum drag, and spacing is distributed across the row as required.

Building a glued unit load in a freight car or other carrier can be done swiftly and easily. With the use of a conveyor, such as that shown in the accompanying illustration, each carton arrives at the end of the conveyor with the glue automatically applied by means of rollers in the friction-driven gluer pit set into the conveyor line. From the end of the conveyor line workmen merely remove the cartons and stack them in place according to the principles of the bonded block or other designated method.

Dunnage Needed

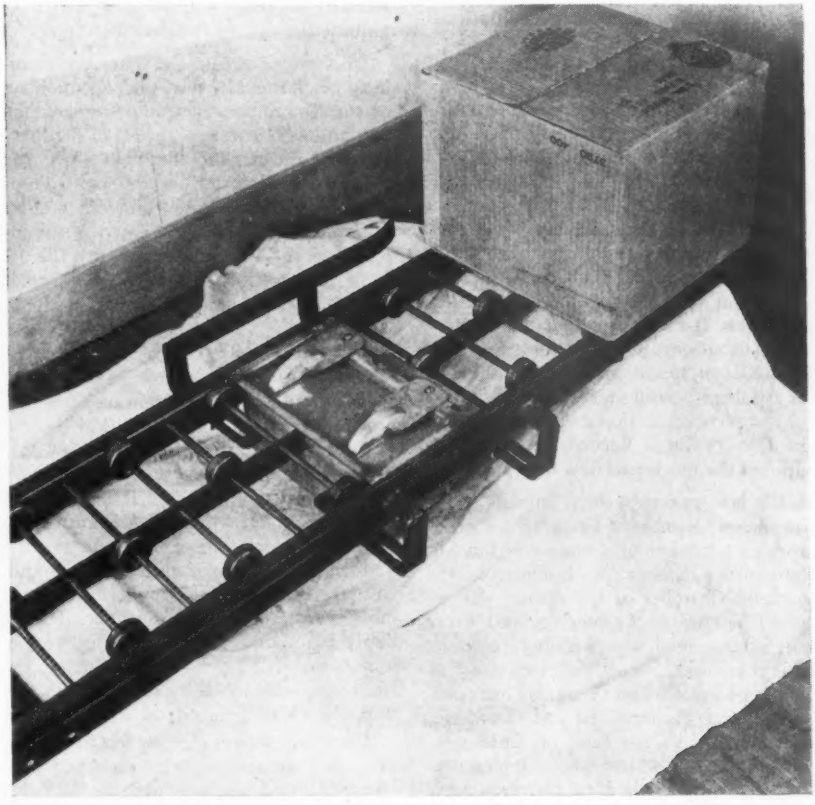
Means of preventing adherence of the glued load to the floor of the carrier do not usually have to be considered. As a general rule the floors are not in a condition to permit bonding of the loads to them. Dunnage to be used should not be paper since that tends to get in the way during the unloading job. Pieces of old fiber containers, however, will serve satisfactorily.

Of special importance in the application of glue to containers is the necessity of getting it on properly. With some containers there is danger of tearing the carton in its removal from the load if an excessive amount of glue has been applied. The specially developed kinds now in use, however, have high shear and low tensile strength characteristics at the same time that they give sufficient strength to withstand the side-sway and shocks incident to carrier movement.

Because of the high shear characteristics of the glue the task of removing containers from the carrier is as simple as picking up each unit with a sharp twist.

Even though the unloading has to be done by hand, and hence generally takes longer with a resultant somewhat higher labor cost than would be the case if the cargo were palletized, a saving that is at least partially compensating is made through the absence of freight charges that would have to be paid on the weight of the pallets themselves. This is further increased through the savings effected by not having to purchase pallets.

• As cartons come down the conveyor line to be loaded into a freight car they pass over rollers in a glue pit applying glue. At end of the conveyor line workmen remove the cartons and stack according to the bonded block method. The glue application holds the cartons in place throughout shipment. These characteristics permit easy removal.



New Law Hits Western Chambers As Lobbyists

By ARNOLD KRUCKMAN

One of the best-informed writers at the Nation's Capital, Arnold Kruckman, presents each month authoritative comments on political developments and their practical application to industry of the West. Any reader who wishes additional information may write to him directly, using business letterhead, at 1120 Vermont Avenue, N.W., Washington, D.C. Inquiries will be answered free of charge. You also are invited to contact him personally in Washington. Copies of pending congressional bills may also be obtained free of charge.

WASHINGTON D. C. — The law which reorganizes Congress is a striking example of the legislation which is rushed through the mill when Congress is in a hurry to go home.

There are few Representatives or Senators who know what the new law means except that it gives the members of the House another $5,000 a year salary, gives both Senators and Representatives funds for substantially more highly paid staffs, and enables every member of Congress to qualify for a nice fat pension, ranging up to $8,500 a year, after he or she is 62 years old, and has been in Congress the requisite number of years.



This reporter chatted with a dozen or more members, in both houses, and found none who could tell him what the law actually will bring to pass. They all vaguely know it precipitated radical changes, but none of them seemed to realize it is so fundamental in its effect upon the organic functions of Congress that there is already a serious doubt in some quarters whether or not it is constitutional.

Right to Petition

Any change in the form and method of conducting the government of the United States, under the Constitution, must be validated by two-thirds of the states. The new law apparently trespasses upon the Constitution in several places; the most universal application of the new statute would be in denying the citizen the right of petition guaranteed by the Constitution. This new law requires that all persons, or organizations, which petition Congress on behalf of specific interests, must register as lobbyists, and must open their books for complete inspection and publication in the Congressional Record, showing who supplies the funds and how they are spent.

The law, as now written, applies to the San Diego Chamber of Commerce, the Los Angeles Chamber of Commerce, the San Francisco Chamber of Commerce, the Portland Chamber of Commerce, the Seattle Chamber of Commerce, and every other commercial, civic, trade, economic, social, fraternal, scientific, technical, as well as educational and religious organization, on the Pacific Slope and elsewhere, which maintains any kind of representation in the capital, or whose representatives come here when necessary to look after legislative matters. If they go to see their members of Congress, under this law, they are lobbyists.

But it exempts by implication lobbyists who represent Government agencies. The lobbies maintained by some federal agencies are the most pernicious pests of the kind the capital has ever seen.

The most realistic streamlining affects the cumbersome committee system which now clogs the processes of Congress. Senate committees are reduced from 33 to 15, and the House committees from 48 to 19. What this may do to the Pacific Slope and the rest of the West is still problematical. The committees in which Westerners have the greatest interest are telescoped into other committees. In the House the committees on Flood Control, Public Buildings, Rivers and Harbors, and Public Roads, become the Public Works Committee. Under the new system, a member may serve only on one committee. And when the re-organization is worked out informally by the leaders who gather quietly around a table somewhere, they must determine who will give way to whom, and whether seniority or other claims will determine the title to the chairmanships.

This problem, and the other problems, must be clarified by the Policy Committee, or the Committee on Committees, which will undoubtedly be composed of the President of the Senate, the Speaker of the House, the Majority and Minority Floor Leaders in both Houses, and other older statesmen, who also will be part of the informal group which will blueprint the organization before it comes up for formal organization discussion.

Public Lands Committee

The other major committee in the House, which should have the attention of Western business men and the political leaders of the West, is the new Public Lands Committee. Into this unit will be squeezed the present Committees on Irrigation and Reclamation, on Mines and Mining, Indian Affairs, Public Lands, Territories (which means Alaska and Hawaii), and Insular Affairs, which would include almost every problem in the Pacific. It certainly is important to Western people to know who will head this committee, and from what states it will draw its membership.

The House Committee on Interstate and Foreign Commerce is left untouched and unconsolidated, and is expected to remain under the chairmanship of Rep. Clarence Lea, the veteran legislator from Santa Rosa, Calif. However, in the Senate they have created a new Interstate and Foreign Commerce Committee in which has been compressed the old Interstate Commerce Committee, the Commerce Committee, the Committee on Interoceanic Canals, and the Committee on Manufactures. The Senate also has a new Public Lands Committee, which has swallowed the old Public Lands and Survey Committee, the Committees on Mines and Mining, on Territories and Insular Affairs, and Petroleum Conservation; it also has a new Committee on Public Works which absorbs the old Committees on Floor Control, Rivers and Harbors, all matters pertaining to power, navigable waters, and public buildings.

New Committee Heads

No one yet actually knows who will head the new committees, or what Senators will be members of the several committees. The law provides that a Senator may function on only two committees. The Senators, each, however, are now entitled to a new expert whom they will pay $8,000 a year. This is expected to do away with the need to lean upon the eager souls from trade organizations and from federal agencies who are always fluttering around ready to help the legislators with any problem, particularly the problems the flutterers know especially well for the reason that it is their job to keep the problem before the legislative mind.

The revived OPA has a hard time coming to life. Apparently it is taking advantage of all the delays the law allows. There is general doubt here whether the new OPA will work. Almost daily we hear about additional industrial groups whose units are on the brink of closing indefinitely for lack of materials. The shoe manufacturers appeared before Administrator Porter and told him the entire industry would have to close, throwing hundreds of thousands of workers out of jobs,

Have you ever seen anything like it?



PROBABLY NOT . . .

NEITHER HAD WE UNTIL

. . . one day recently a manufacturer came to us and asked us to make him tons of these things. We made them for him in a hurry, at a competitive price — but in the process we never did find a name for it. Some called it a "gimmick" or a "gil-hickey". We simply called it a "special".

This is only one sample of the "specials" we knock out every day. You should see some of the things we're making in our plant — all sorts of odd sizes, shapes, threads, serrations and knurls, from 3/32" to 1½" diameters, either hot or cold forged, in all types of metals. Many of these items never have been made before on the Pacific Coast.

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because tanners could not buy hides, and manufacturers could not buy leather.

Because the housing muddle is expected to grow rapidly worse the President is believed on the point of demanding action on the Wagner - Taft - Ellender General Housing Bill. It is also felt that he will increase his efforts for a 65c an hour minimum wage law in addition to plugging for more legislation with which he can combat the strikes presently brewing throughout the country. His efforts are likewise continuing for merger of the armed services.

Skilled Worker Shortage

Government tells us the West Coast has labor shortages. In San Francisco the experts report there is a lack of molders, core makers and skilled mechanics. And they report Oregon has 37,000 unemployed. Yet, says the same report, the Oregon lumber industry has offered to pay as high as $30 a day for a good climber, with no takers. They tell us here the trouble is that the young veterans are reluctant to come back to the woods; many have acquired families and do not like to leave them. Moreover, the large number of unemployed in various regions is explained by too easy availability of unemployment insurance and the indifference to jobs that do not pay high wages.

Another explanation, which is generally regarded here as illuminating, was given by a Los Angeles tool manufacturer. He has a high turnover in help. He says most new workers simply want to sit, not work. There is extraordinary absenteeism. Quits are unparalleled in frequency and number. The present high rate of employment, almost 60,000,000, obviously spells extraordinary industrial activity; but the experts here acknowledge if workers really would apply normal energy to a job, the number would not be so large. It is assumed it often takes two or three persons to do a normal man's job.

San Diego Overstuffed

Government sources informally say San Diego is overstuffed with workers, and does not want any kind; but that beefboners can almost write their own ticket in Los Angeles, where many different kinds of jobs are reported to go begging, because housing is said to be growing more acute, rather than getting easier. On the other hand, they tell us the worker today actually takes home less pay than he did when he got less wages. The average take-home is reported by the Bureau of Labor Statistics to be $3.14 less than it was a year ago. There is much less overtime, and he is held down to 40 hours, or less, per week, against 45 hours or better in war years.

On an hourly basis the average worker now gets 6c an hour more, rather than 18½c(according to Mr. Schwellenbach's playmates. The average for all industries in April was a pay envelope of $42.92. It started at $32.48, in the tobacco industry, and $53.55 in the petroleum and coal industry. The Treasury people are seriously worried about the extent to which people are unloading their war bonds. And they report savings of spendable income have dropped from 30% to less than 20%.

We understand the maritime workers' complaints will be thrust upon the attention of the West Coast again not later than September 30, when the present contract of the longshoremen expires. Neither Harry Bridges, nor any of the rest of the group who were here some months ago, made a very striking impression. During the conference in Judge Schwellenbach's office somebody poked somebody else in the nose.

The report here is that Harry Bridges not only has lost face out in the West, but that he is not taken as seriously here as he was in more exciting days. The whole situation sounds very complicated at this angle. They tell us the Sailors' Union of the Pacific, an A.F. of L. union, has been able to get a greater raise in wages than the Committee on Maritime Unity, headed by Bridges, abetted by Curran. We hear also that the Communistic political agitations of Bridges and others daily are becoming more unpopular among CMU members.

A.F. of L. Sailors

Meanwhile the A.F. of L. union (Sailors' Union of the Pacific) has successfully taken contracts away from Curran and Bridges. The report here is that some, if not all, the longshoremen, may defy Bridges, and settle down to work. Bridges seems to have lost out everywhere. Curran shuns no opportunity to demonstrate his lack of respect for him; and Phil Murray, of CIO, took away a part of Bridges' jurisdiction in California, weakening him in the area where he was thought to be strongest. Phil Murray does not like Communists. If the employers' along the West Coast waterfront have adroit diplomats, with a flair for delicate public relations sensitiveness, it is the opinion here they may be able now to do something to rid themselves permanently of the Bridges' type of trouble.

The raise in the price of silver to 90.5%, a 27% increase, is expected to cause the Eastern industry to tap the Treasury for a large volume of the shining metal. Whether the price of silver goods will go up no one seems to know. The largest Eastern manufacturers say they will hold the price line. Most of the released metal will go into knives, forks, and spoons, the trade's flatware. Wartime newlyweds are expected to grab the new products as soon as they come into the stores. The next holiday season is regarded as an outstanding opportunity for silver products. Over 60% of all available silver is expected to go into flatware and hollow ware. The rest will be used by photographic industries, by electrical equipment producers, by brazing alloys, and by dentists, pharmaceutical manufacturers, and by aircraft factories. There is much interest here about what the West will do to make good its plan to initiate a silver manufacturing industry.

Aluminum Records Fall

Government also has reports that aluminum is breaking records so fast that it has been almost impossible to obtain dependable data. They tell us the industry is capable of making 1,000,000,000 pounds primary aluminum annually, which can be turned into 4,000 different products. They are getting away from pots and pans, and are turning to superstructures for ships, trailers for trucks, airplane fuselages and wings, railroad passenger and freight cars, and sheet to roof barns. Pig now brings 14c and ingot aluminum 15c. They warn us there is no immediate chance that the full capacity of the industry can be used in full. But in the not too remote future, they see 1,500,000 pounds to 2,000,000 pounds a year in use. This would include production from lower-cost scrap.

The recent federal stockpiling law apparently is important to the West. It is expected to involve the expenditure of $5,000,000,000. Army, Navy and Interior are setting up a program which includes acquisition and preservation of materials for potential defense needs. It is expected the Bureau of Mines will conduct immense operations in prospecting for more ores, oils, and minerals. They will honeycomb the West Slope, Alaska, and insular possessions in the Pacific. The over-all direction of this extraordinary program is vested in the Army and Navy Munitions Board, headed by Richard R. Deupree, of Proctor and Gamble. Procurement Division of Treasury will do the buying. There are 50-odd needs on the list. The stockpile hunters will comb South America, Africa, the East Indies and India, Malaya, and even China.

Surplus Property Diversion

Twenty ships headed for San Francisco with surplus war property were diverted to other ports while on high seas in order to prevent the massing of excessive stocks in one region. The ships carried much heavy machinery.

It is wise to bear in mind that CPA has the power to limit inventories, and that it is exercising this power increasingly. It may impose inventories limited to 30 days normal stock or extend the limits to three months' inventory. The regulation applies both to wholesalers-manufacturers, and to retailers. The orders, relics of the war, are known as L-63 and L-219. The inventory control is applied wherever there appears to be an unreasonable freeze of materials or commodities.



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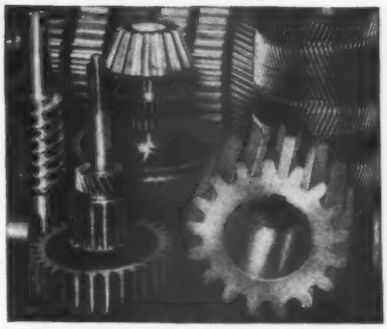
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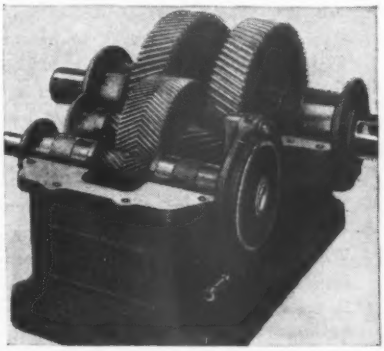
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Box Testing Machine Simulates Freight Car

To determine how well wooden boxes or crates will stand up under use in refrigerator cars, tests are being carried out in a specially devised mechanical testing machine at the Wooden Box Institute, Portland, Oregon.

The machine consists of a replica of a cross section of a standard refrigerator car. The boxes or crates are stacked and fastened in the machine according to one of the conventional carloading systems, such as the stripping method, the Hoak method in palletized loads.

When loading is completed, the installation, mounted on a solid cement foundation and activated by an electric induction motor, gets the combined vertical and horizontal jolting motions that a freight car would receive in going over a track.

Length of time required for the test is, so far, seven hours. Though it has not yet been established what the equivalent in track mileage this seven hour test is, the Wooden Box Institute expects to be able to form worthwhile preliminary conclusions on box and crate performance before they are subjected to actual freight car transport conditions.

Machinery For Sugar Beet Production Tested

New types of machinery designed to speed sugar beets on their way above ground are being tested this season by the Beet Sugar Development Foundation in Colorado, Wyoming and Nebraska.

Types of machinery tested consist mainly of different makes of drills, used in planting the seed; press wheels, use of which have an effect on seed germination, and metering devices by means of which seeds are planted in such a way as to reduce the thinning required in heavy seeding and irregularly spaced plantings.

In conjunction with drill tests a variety of discs for crust breaking, weed removing and soil packing are also being tested.

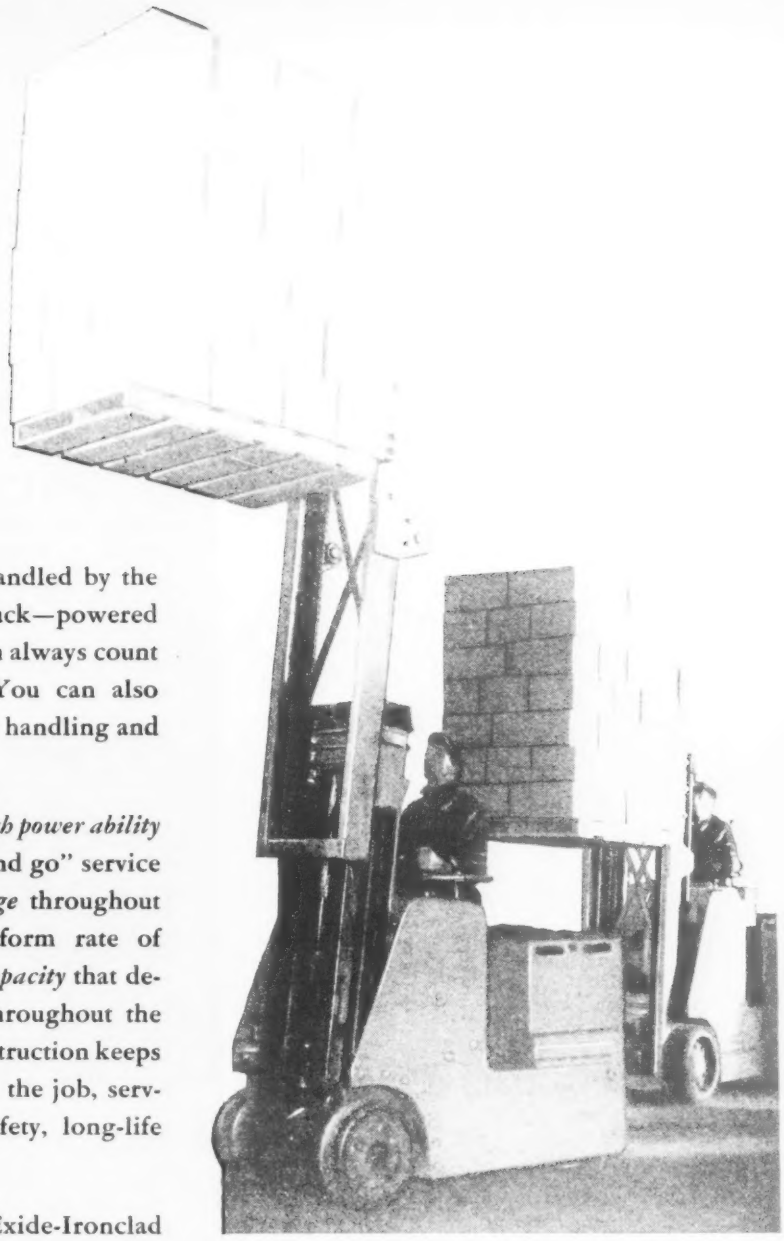
Experiments in thinning practices are also being carried out by the state colleges of Montana and Utah, and by the University of Idaho and Colorado A. & M. College. They include tests of new mechanical thinning knives and down-the-row blockers as well as use of chemical sprays for thinning beets.

Bank and Steel Company Win Merit Awards

Colorado Fuel & Iron Company and the Bank of America were both winners of the "Highest Merit Award" given annually to firms, annual reports of which are accounted to be among the best in the United States.

Awards are given by the business and finance publication, Financial World. Basis of judging is content of the report, typography and format.





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WESTERNERS AT WORK...

Arizona

New general mgr. and new chief engineer for the Reynolds Metals Company plant at Phoenix, Arizona, are **Charles Tichy** and **William F. Hunt.** Personnel manager is **W. G. Shillig.**

California

Edmund McKanna, Western director of National Industrial Conference Board, is the new executive director of California Apparel Creators; Los Angeles . . . **Charles W. Semple** succeeds McKanna.

Up in the Air

George C. Ford becomes div. mgr. Consolidated-Vultee's Downey plant. . . . **Len Rose** appointed works mgr. Nelson Aircraft Company, San Fernando . . .

Jess Maxwell, apptd. flight super for American Airlines' operations in Western region, with headquarters at Lockheed Air Terminal, Burbank, succeeding **Waldo Goodyear,** who has been transferred to new assignment with American Overseas Airlines at Shannon, Ireland.

Oil Men All:

At Standard Oil of Calif., **W. M. Roberts** has been apptd. mgr. of recently-created labor relations dept . . . while at Richfield, **W. F. Hance** becomes mgr. for Oregon & Southwestern Idaho, with headquarters at Portland, succeeding **H. T. Hutchinson,** promoted to mgr. of Central and No. California and Nevada dist., with San Francisco hdqrtrs.

At Shell Oil Co., **E. D. Cumming,** v.p. in charge, Los Angeles, leaves for London, and **S. F. Bowlby,** former asst. production mgr. in L. A., succeeds him as v.p.

Emil Kluth, of Pacific Western Oil Corp., named chairman of the Conservation Committee of California Oil Producers for 1946-'47 to succeed **Joseph Jensen,** of Tide Water Associated Oil Company.



Albert W. Lohn

Continuing to serve as general manager of the Ducommun Metals and Supply Company, **Albert W. Lohn,** San Diego, has been promoted to the office of vice president.

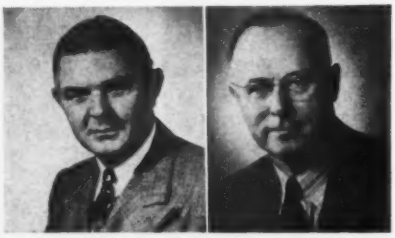
Reconversion!

Brig. Gen. Richard E. Mittelstaedt, supt. of water division of City of Sacramento, has been appointed to fill a vacancy on the California Railroad Commission. . . . A colonel of the Coast Guard Artillery Corps during the war, **Harry A. Johnson** has rejoined Westinghouse Electric Corp.'s San Francisco staff.

Lieut. Col. Joseph F. Sally, chief of production at the Hanford Engineer Works atomic bomb plant in Washington during the war, since retired from the army, now heads up Indenco, an industrial and civil engineering firm in Oakland. He was formerly with the Austin Company.

P. W. Cunningham, former engineer in Bethlehem Steel Corp.'s industrial department at San Francisco, is now plant mgr. of Industrial Equipment Company, San Leandro.

Chief process engr. for Bechtel Bros. McCone Co., San Francisco and Los Angeles, is **Gordon B. Zimmerman,** formerly with Universal Oil Products Co.



• William Holman (left) is new v.p. and wks. mgr. for Smoot-Holman in Inglewood, Calif., while L. A. Hobbs (right) becomes v.p. and gen. sales mgr. Other changes include appt. of Fred M. Smoot as sec. and Thomas S. Baker, as treas. Hobbs is a member of the OPA lighting fixture industry advisory committee and spends part of his time in Washington, D. C.

Industrialists

Promoted—**Carl W. Coslow,** formerly works mgr. for Plomb Tool Co., Los Angeles, upped to v.p. in charge of mfg. He'd been with Plomb for a year. . . . **Donald J. Will** is now pres. of Stuart Oxygen Co., while **Patrick Coyne** assumes presidency of company's subsidiaries, Standard Acetylene Co., Ltd., Oakland; Valley Oxygen Co., Hanford; and Pacific Carbide and Alloys Co., Portland.

Staff changes in San Diego's National Iron Works include: **Dave Bell,** to gen. mgr.; **William Zwicker,** to v.p. in charge of sales in Los Angeles; **Ted Sanford,** to v.p. and sales mgr.

D. P. O'Keefe, Los Angeles stove manufacturer, elected pres. Gas Appliance Manufacturers Assn. . . . **E. K. Sullivan** named mgr. of two Hunt Foods plants at Hayward to coordinate production. . . .

Recently elected v.p. and director of the Republic Supply Co. of California is **Roy W. Johnson.** . . . New supt. of the Hercules Powder plant at Hercules, Calif., is **Clifford T. Butler** from Bessemer, Ala. He succeeds **Leroy P. Hall,** resigned.



Roy Johnson

J. J. Kral, Oakland plant mgr. for UARCO, Inc., becomes western division mgr. . . . **A. A. Rorison** upped to gen. auditor Douglas Aircraft.

Virgil D. Dardi has been made pres. of Pepsi-Cola Bottling Co. of Los Angeles. . . . **Elmer Fuller is now production mgr.** for Winckler & Smith Citrus Products Co., Inc., Anaheim. He was formerly with Southern California Citrus Fruits Co.

Recently appointed gen. mgr. of the Sacramento Valley Associated Industries is **John T. French.** He succeeds **Lou G. Brayton** who steps up to pres. of the organization.

Westerner Wins

E. C. Hummell, v.p. and gen. mgr. Utility Electric Steel Fdry., Los Angeles, New York, elected pres. of Alloy Castings Institute, N. Y.

Frank E. Marsh, office mgr. for the San Francisco Chamber of Commerce's Washington office, steps up to post as exec. v.p. and gen. mgr. for the San Francisco Bay Area Council. . . . **Frank E. McKee,** asst. gen. mgr. State C. of C., succeeds Marsh in the Washington post.

Trumpis-Collar & Associates, Los Angeles firm of consulting production and industrial engineers, has acquired the design staff of the Manufacturers Engineering Co., which it has combined with its firm. **A. Dunkin,** owner of the Manufacturers Engineering Co., and formerly chief tool design engineer for Northrop Aircraft, comes to Trumpis-Collar as chief design engineer.

After resigning as chairman of the Tenth Regional Wage Stabilization Board, and succeeded by **Paul L. Kleinsorge, Thomas Fair Neblett** has established an office in L. A. as an industrial relations consultant.

W. Burling Tucker, s.e. dist. eng. for California Div. of Mines, headquartering

in Los Angeles, is new acting State mineralogist, filling the vacancy left by retirement on Aug. 1 of **Walter W. Bradley,** State mineralogist for 18 years.

Don M. Follett, asst. city mgr. of Oakland, dons new job as mgr. of Oakland Chamber of Commerce's recently-organized Alameda County new industries dept. . . . **Charles P. Howard** is chairman of the new committee. . . .

Swiped from the East—**Theodore K. Burgenbauch** will be production mgr. of the Electronics Division of Ellinwood Industries, Los Angeles. . . . He formerly was asst. factory engineer in the electronic tube division of G. E. at Schenectady. . . . His job will be to co-ordinate divisions of the dept. headed by **E. M. Sumner.** . . .

Everett B. Evleth, former v.p. and gen. mgr. of Brown Instrument Co. of Philadelphia, comes West to take over post as pres. of Ray Control Co., Pasadena. Company plans general expansion under Evleth's leadership. The Pasadena outfit is a subsidiary of Lane-Wells Co., and the research depts. of the two have been combined. During the war Ray manufactured lenses, prisms and optical elements and instruments for the Navy.



Everett B. Evleth

Joseph H. Wadsworth has been appointed director of public relations of Joshua Hendy Iron Works, with headquarters at Sunnyvale, coming over from California Shipbuilding Corp. . . . **Joseph Avila Jr.,** has been appointed operator of the Associated Oil Co. plant at Truckee—he's been with the company 16 years. . . .

Guy R. Buchanan, asst. gen. mgr., Coast Lines at Los Angeles, succeeded **O. L. Gray** as asst. to operating v.p. of Santa Fe Railway; **A. B. Enderle,** sup't of the L. A. Division at San Bernardino, succeeds Buchanan; **A. J. Smith,** sup't at Winslow, Ariz., succeeds Enderle. Succeeding Smith is **O. H. Osborne,** Northern Div. sup't at Fort Worth, Texas.

William J. McClung is new gen. mgr. of Bethlehem's Pacific Coast steel plants in Seattle, South San Francisco and Los Angeles, as well as mill depots at Seattle, Portland, San Francisco and Los Angeles. He transfers from the East where he was asst. to gen. mgr. of Bethlehem's Lackawanna plant.



William J. McClung



Time is money—save it by use of the CLARK Trucloader, newest of the Clark line of industrial haulage vehicles. Light, compact—yet sturdy as the famous Clipper, Carloader and Utilitruc. Let a Clark Field Engineer plan for you an efficient method of material handling—today!

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ELECTRIC STEEL CASTINGS

WESTERNERS AT WORK...

(From page 55)

Director of War Assets Administration's San Francisco office, Export Division, is **R. L. Bearden,** named to that post in part because of his long experience in foreign trade in Latin America.

Colorado

Lloyd W. Ingles, super of the C.F.&I. Crested Butte Mine, has resigned to accept postion as gen. supt. of Rex Carbon Mine of the Cribbs-Goodman Coal Co., Fremont County. Ingles has purchased an interest in the mine and will be in active charge of mining operations.

Oregon

Still useful—Though **H. L. German** has resigned from his posts as v.p. and gen. mgr. of Jantzen Knitting Mills, he has agreed at request of the company's board of directors to continue as a member of the board. He has passed his 65th birthday.

Changes jobs—**Henry T. White,** contract & equipment supvr. with Kaiser Co., becomes Oregon district OPA price exec. succeeding **Andrew H. Trice** who moves to the district office at San Francisco as price economist. . . .

New manager of the proposed Weyerhaeuser Timber Co. mill at Springfield, Ore., is **J. R. Titcomb,** formerly with the company's Everett, Wash., mill.

The Crystal bowl — **Samuel B. Ross,** econ. adviser with dept. of justice, will assist Benneville's industrial and resources div. in forecasting industrial power requirements in the Columbia Basin. Ross was head industrial analyst for resources protection board of War and Navy depts. previously.

Washington

H. F. Brown boosted to vice pres. in charge of production manufacturing at Boeing Airplane Company plant, Seattle, from works manager of the Boeing-Wichita division, after **H. O. West** resigns as exec. vice pres. . . . **F. P. Laudan,** vice pres. in charge of Boeing-Renton operation during war, now given charge of experimental manufacturing. . . . **A. W. Schupp,** former assistant works manager at Boeing - Wichita division, raised to works manager.

Long-Bell Lumber Company's new safety engineer at its Longview, Wash., plant is **Robert P. Miller,** formerly of the Washington State Dept. of Labor and Industries, safety division. He succeeds the late **R. D. Hamilton.** . . . **A. A. Dresser,** one-time mgr. of Henry J. Kaiser's Glacier Gravel company at Seattle, is now asst. mgr. of the Northwest Insulation Company at Spokane.

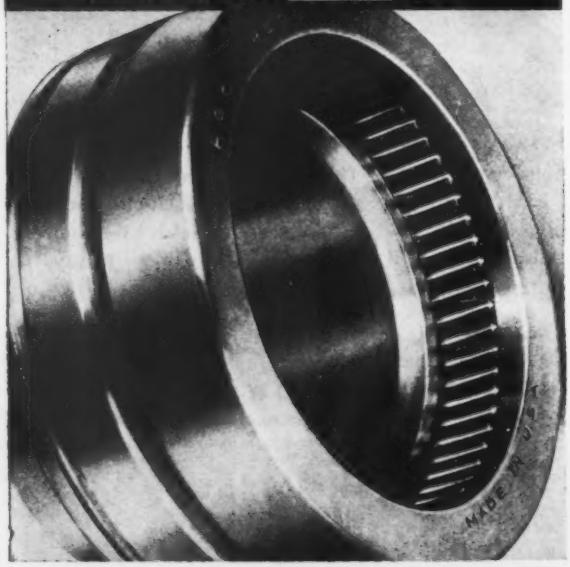
Industrialists

Ralph M. Roberg, v.p. and sales mgr. of the Puget Sound Pulp and Timber Co., elected pres. of Bellingham Paper Products. Other officers elected were: **Joseph A. O'Reilly,** Tacoma, v.p.; **Harry Binzer,** sec.; and **William Sealy,** treas.

Still in the family—**Otto R. Rabel** retires from presidency of Star Machinery Co., Seattle, and is succeeded by **Victor E. Rabel. Irvine B. Rabel,** treas., now also becomes a v.p.

New officers of Spokane's General Machinery Co. include: **E. J. Simons, Jr.,** pres.; **H. I. Gustafson,** v.p. and sales mgr.; **Roy A. Fortune,** sec.; **C. N. Golm,** treas.; **Grant F. Barrett,** chief engr.; **C. McDevitt** and **John Talbot,** staff engrs.; **P. G. O'Donnell, R. D. Rowe,** and **N. L. Finch,** sales engrs.; **J. E. Linke,** parts and

RBC CYCLOPS BEARINGS
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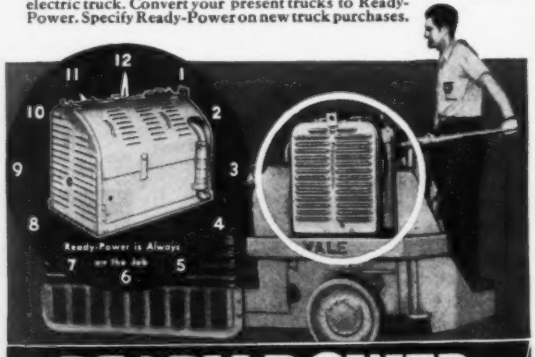


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mdse. mgr.; and **P. H. Witschge,** shop supt.

C. G. Soike, head of a Seattle trucking firm, is new pres. of Washington Motor Transport Assn., Seattle. Others are: **G. H. Caldwell,** Seattle, 1st v.p.; **Frank C. Fairchild,** Yakima, 2nd v.p.; **J. R. Sexton,** Bremerton, 3rd v.p.; **George V. Eastes,** Seattle, v.p.; **Ray Culbertson,** assn. mgr.,

Raymond R. Smith, former director of public and labor relations for Todd Pacific Shipyards, Inc., has joined firm of F. T. Crowe & Co., bldg. material and construction equipment concern, as v.p.... At Tacoma **Don Maxwell** is directing the affairs of the Ocean Trade Assn. of the Tacoma Chamber of Commerce. . . .

At Olympia, **Fons J. Hughes** was apptd. state industrial safety engineer—he had experience with Kaiser shipyard, Vancouver, and Oregon Ship, Portland. . . . **N. Henry Gellert,** already pres. of Seattle Gas Co., assumes duties as treas.—controlling the money end of things as well; while **Richard D. Smith,** analyst, is upped to asst. treas. and **Lois Mahan,** admr. asst., was elected as new asst. sec. **R. P. Dunbar,** former treas. & asst. sec. was placed on pensioned retirement.



W. E. Difford

W. E. Difford, managing director of Douglas Fir Plywood Assn. for the past eight years, resigns and is succeeded by **Harrison Clark** of Tacoma, who will be acting manager of the association.

George Rideout, former district manager National Ass'n Mfgrs., has resigned from that post to become editor of Free Enterprise, Seattle.

G. F. Hardy, Western traffic mgr. in Seattle for Great Northern Rwy., goes to St. Paul as gen. freight traffic mgr. and **R. P. Starr,** gen. agent., succeeds Hardy at Seattle.

Utah

Charles Waggoner is general supt. at Geneva steel mill, succeeding the late **Peer Dan Nielsen.** Nielsen left Geneva just a short time before his untimely death to supervise Henry Kaiser's Fontana.

Associations Elect

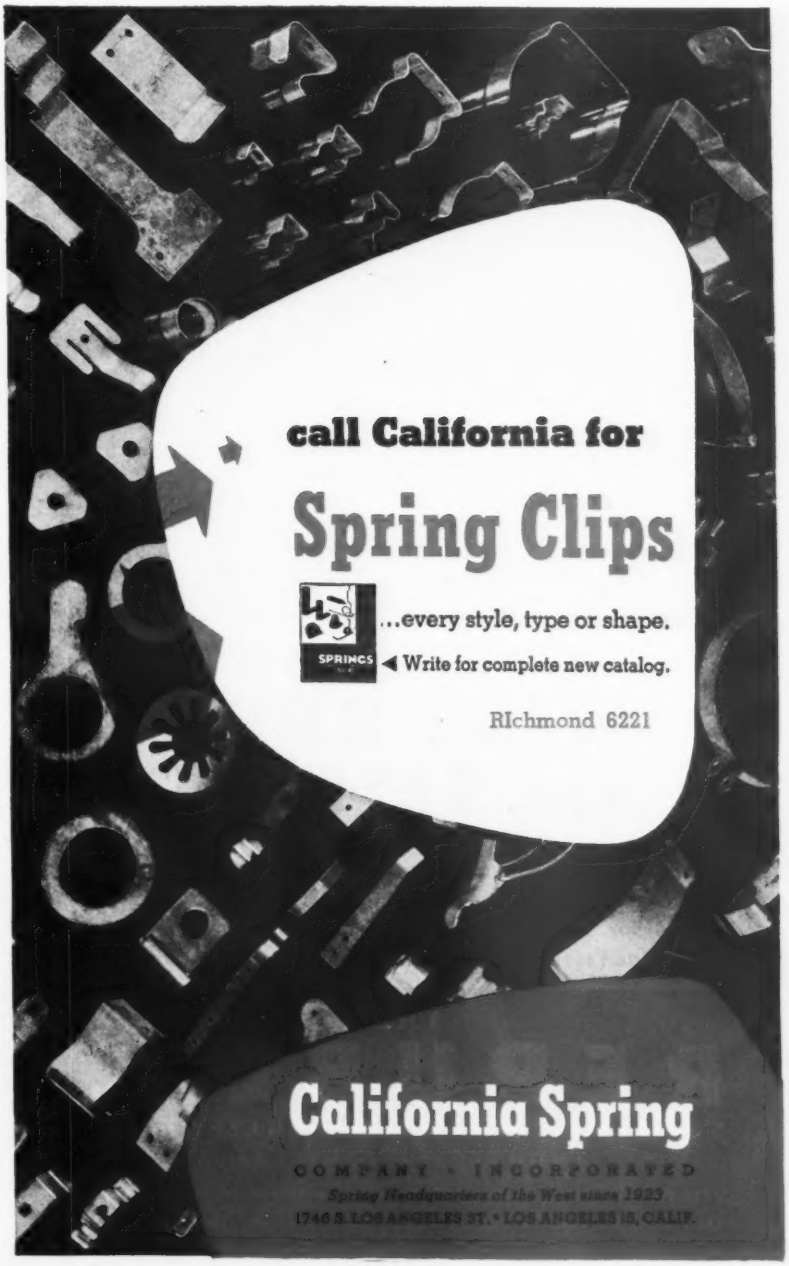
United Metal Trades Assn. of Portland: **L. C. Andersen,** elected pres.; **Edward G. Huffschmidt,** v.p.; and **John L. Stevenson,** treas.

Pacific Northwest Development Assn.: **J. C. Compton,** McMinnville, Ore., elected pres.; **David B. Simpson,** Portland; **L. A. Colby,** Missoula, Mont.; **Lynn Driscoll,** Boise, Idaho; **George R. Thompson,** Chehalis, Wash.; and **Clifford Hansen,** Jackson, Wyo., v.p.'s, and **Don Noble,** Portland, sec.

Northwest Electric Light & Power Assn. — James H. Polhemus, Portland, elected pres.; C. J. Strike, Boise, v.p. for Idaho; J. E. Corette, Jr., Butte, v.p. for Montana, and R. H. Ashworth, Salt Lake City, v.p. for Utah. . . .

Officers and directors of the Southern California chapter, American Foundrymen's Assn. for the coming year, who were installed at a recent meeting in Los Angeles are: **W. D. Emmett,** pres. (L. A. Steel Casting Co.); **Henry E. Russell,** v.p. (Eld Metal Co.); **Leonard O. Hoffstteter,** sec. (Brumley-Donaldson Co.); **Earl Shomaker,** treas. (Kay-Brunner Co.)

New officers for the Los Angeles section, American Welding Society, are: chairman, **David Bisbee,** ass't factory mgr., Norris Stamping Co.; vice chairman, **Al Fenlason,** welding engnr., Consolidated Steel Corp.; sec.-treas., **E. O. Williams,** v.p. and district mgr., Victor Equipment Co.; exec. com., Charles B. Smith, Douglas Aircraft Co.; **Herm Hoth,** dist. mgr., Air Reduction Sales Co.; **Hugo Hiemke,** A. O. Smith Corp.



REGIONAL REVIEWS

TEHACHEPI TO TIJUANA

LOS ANGELES.—Most interesting is the present curious situation in foreign trade. Every government has its own set of restrictions on imports and exports, its quotas, its exchange blockades or differentials. So tightly is this web entangled that international flow of products might seem almost hopelessly difficult. Most local manufacturers are aware, moreover, of domestic markets so avid for their products that customers present a rationing rather than a sales problem.

Day by day, however, these restrictions are melting away. Cancellation of black lists, exchange of trade information, and plain international horse-trading, are reopening the avenues of commerce. As a result, interest in foreign trade is reaching a peak seldom seen in this country.

Before the war, Los Angeles County had only 55 firms engaged in importing or exporting various goods. A tally made last January showed 400—but by mid-year, the number had soared above 600.

Several reasons are fairly obvious:

(1) Ex-GI's have returned home brimming with new knowledge of undeveloped countries lush with raw materials, and inhabited by millions of potential customers for everything from handkerchiefs and locomotives to breakfast foods and phonographs. Naturally these men are attracted by the glamorous export field.

(2) Some profit-hungry operators, realizing that while domestic buyers may be hungry for manufactured goods, foreign markets are simply ravenous, have seized this opportunity to tap these opulent concentrations of buying power as a sort of super black market. Some indeed have already begun to undermine U. S. prestige by shabby bargains in war surplus or inferior materials—rusted barbed wire, subgrade green lumber, and goods salvaged from military scrap piles.

Indications are also that many large export orders at high prices were placed during the recent period without price control. CPA reportedly was on the verge of issuing a general order limiting sales for export, when restoration of OPA made a drastic move unnecessary—although soaring exports of some scarce commodities still may bring individual controls for benefit of U. S. reconversion.

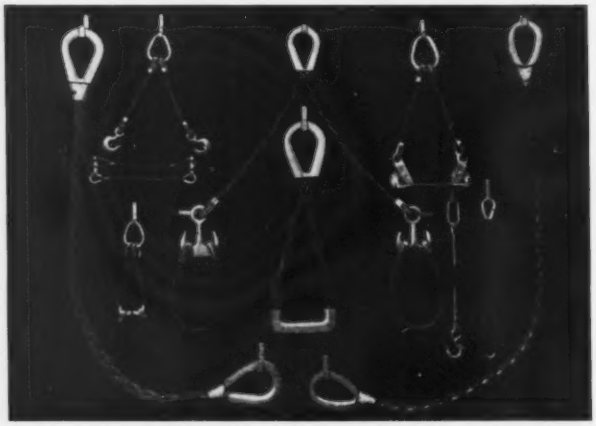
(3) Many manufacturers, taking a long-range view, have begun to flirt with foreign trade as a hedge against the day when competition begins to narrow the home market. Some have set a rule that 10 per cent or more of their output be exported to build up a following abroad. The British, of course, are going much further to recapture foreign markets, reportedly shipping 50 per cent of their automobile production.

The L. A. Chamber of Commerce, which publishes a bulletin called "World Trade Opportunities" listing foreign visitors on buying missions and new opportunities for foreign sales, has experienced so many requests lately that circulation of the bulletin has jumped from 200 to 1100 copies per issue.

The chamber recently did a bit of long-range educational work of its own when it produced a profusely illustrated rotogravure booklet in Spanish and Portuguese, detailing interesting facts about southern California. Some 20,000 copies were sent to Latin-American chambers of commerce, transportation companies, consulates, and commercial firms. A striking increase in inquiries from foreign firms, and in visitors from Latin-American countries, indicates that the average Latin-American knows surprisingly little about West Coast U. S. industry, although he has heard much of New York, Miami—and, of course, Hollywood.

At home, chain store sales and other barometers of retail activity continue at high levels. Sample displays of washing machines, vacuum cleaners, and other ap-

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pliances now present a brave pre-war appearance, but deliveries continue slow. Some stores report that the first frenzy of would-be buyers to get on waiting lists has cooled somewhat, and that routine selling approaches must be made to get a customer on the firm's backlog book.

Free Nylons and Butter

Despite price increases on gasoline, the market in this oil-rich area appears to be on the brink of an old-fashioned war for gallonage. A rash of premium deals has appeared, and hardly a small independent station in the Los Angeles area does not offer buyers a bonus ranging from free butter or a chance on nylons to pyrex frying pans or chinaware.

Many small manufacturers consulting the U. S. Department of Commerce express particular interest in CPA priorities on new machine tools. The trend reflects (1) failure to find what they need in surplus or in current dealers' stocks, (2) appearance of advanced designs by tool makers, enabling the user to do new things or to do old things more efficiently; and (3) progress of many business men's plans from the blueprint stage to the point where they are ready to go into action.

Other sidelights on reconversion include the announcement by Douglas Aircraft of two new products: a cargo plane carrying 22,700 pounds of freight at 240 miles an hour, with 1500-mile range; and an aluminum rowboat 10 feet long and 70 pounds in weight.

Harry Woodhead of Consolidated-Vultee and T. Claude Ryan, of Ryan Aeronautical, had optimistic things to say on their return from a joint trip to Washington, where they talked with Navy aeronautics officials about new military contracts and with CAA bigwigs on safety factors in personal plane construction. Ryan expects to pass new milestones in his firm's contract to develop a combination jet-propeller fighter ship with "higher performance" than anything now in the air.

Slag from Western blast furnaces will be turned to the manufacture of building materials at a plant to be erected next door to Fontana steel mills. The by-product will emerge in the form of baked batts, paper-wrapped blankets, and granulated wool for insulating purposes.

Weber Showcase & Fixture reports plans to add 33,000 square feet to production space through lease of a Huntington Park plant, with the aim of stepping up production of such items as aircraft seats, galley equipment, toilet seats, hot water tanks, and air frame parts.

Assembly of automobiles in Los Angeles County soon will embrace 14 makes, the same number as in Detroit. Dodge now will be able to assemble here as result of a new railroad commission ruling, obtained with Chamber of Commerce sponsorship.



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REGIONAL REVIEWS

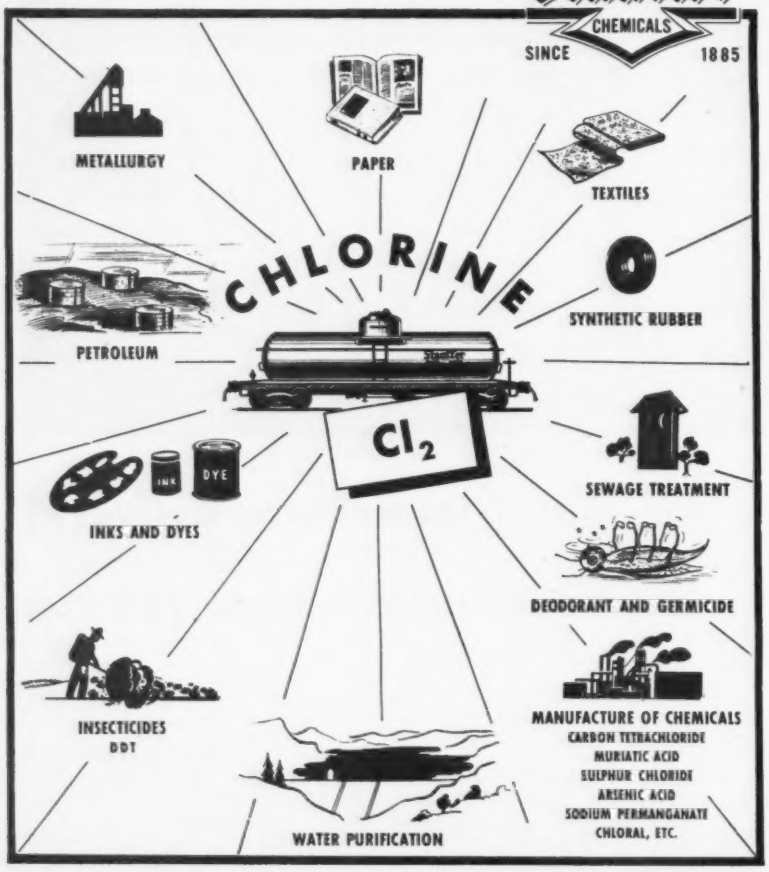
THE PACIFIC NORTHWEST

ESTABLISHMENT of new industrial organizations to manufacture products which will be sold on a nation-wide and competitive basis is adding increasing weight to the record against the frequently held belief that development of Northwest industry must be restricted by handicapping factors.

To an already sizeable list of manufacturers who do sell their products throughout the nation are being added such names as Western Toy Co. of Seattle, National Manufacturing Co. of Portland, the Xpediter Corp. of Seattle, Tacoma Powdered Metals Co., and Jensvold Manufacturing Co. of Olympia.

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CHEMICALS | FOR INDUSTRY AND AGRICULTURE

Statements have occasionally been made to the effect that industry in the Pacific Northwest cannot produce for the national markets; that the Pacific Coast markets are not sufficiently great to justify mass production; and therefore, industry in this area has no immediate prospects. Behind such reasoning are the more or less logical factors of high labor rates, discriminatory freight rates, great distances to mass markets, and lack of supporting industries to supply raw and semi-finished materials and sub-assemblies.

Accomplishments of the lumber industry, and of the allied wood product industries are usually dismissed on the grounds that they utilize natural resources not elsewhere available. Such arguments are likely to ignore the accomplishments of such old and well established organizations as the Kenworth Motor Truck Co. of Seattle, the Boeing Aircraft Co., also of Seattle, the Iron Fireman Manufacturing Co. of Portland, and the Pacific Car & Foundry Co. of Renton, Wash. One of these has recently expanded its plant facilities by moving to new and larger quarters. Two more have recently announced the acquisition of sizeable orders.

SEATTLE—With a backlog of $67,000,000 in orders for Stratocruisers Boeing Aircraft Co. expects its payroll to increase gradually from the present 9,200 to about 14,000. In addition to the orders for 49 of the commercial adaptions of the Superfortress from five air lines the company is at work on a $70,000,000 Army order for 60 B-50 bombers, an improved variation of the Superfortress. . . . Leasing of Boeing's Renton plant to the Navy and other governmental agencies for storage space was protested by the Washington State Advisory Board to the War Assets Administration on the grounds that the Seattle area is suffering from an aggravated shortage of both industrial sites and plants. . . . Todd Shipyards Corp. and the Navy exchanged plants at Seattle and Tacoma. Todd will take over the Seattle shipyard controlled by the Navy, and the Navy will assume ownership of the Todd yard at Tacoma.

Among the manufacturers more recently established, but still dating back to prewar days are the Kirsten Pipe Co. of Seattle, and the Mixermobile Manufacturers of Portland. The former have just moved into a new and larger plant, while the latter has purchased a new plant site and will probably start construction of a much larger plant within the next few months.

As to the newer industrial organizations, Western Toy is just getting into the production of an aluminum, pedal operated, child's automobile modeled after the Army's famous jeep, and reports are that 40,000 orders are backlogged from all parts of the United States. National Manufacturing Co., organized and operated by a returned GI, Matthew Kelly, has developed and is producing a single-tank water

softener that is already in demand throughout the West.

In Tacoma Northwest Syndicate is turning out a high-frequency generator for bonding veneers and glued wood joints and forming wood shapes that appears to have wide possibilities. Demand and limited production facilities have so far limited the use of the machine to the wood product industries. The Xpediter Corp., an outgrowth of Young Iron Works and Isaacson Iron Works in Seattle, will shortly set up in its own plant to turn out a motorized hand truck, a field that is highly competitive.

A relatively new field is being invaded by the Tacoma Powdered Metals Co., which will soon be in production. The principal product is powdered steel made from scrap and utilized in the manufacture of (among many other things) oil impregnated bearings. Practically all of the prodution is shipped to eastern manufacturers. Jensvold Manufacturing Co. of Olympia, which turned out B-29 assemblies during the war, has turned to peacetime manufacture of steel and light metal products.

Development of new industries and improvements in established ones were in the news last month. The Washington State Advisory Commission organized a subcommittee to study the factors in the establishment of a textile industry within the state. From the nation's capital Harris Ellsworth, Republican representative from Oregon, announced that the Springfield plant constructed to manufacture ethyl alcohol from sawmill wastes is still considered an essential project in view of large demands for the alcohol and the shortage of grains and molasses, usual sources of the product.

Speaking of wood wastes, the Washington State Pollution Commission in its program to clean up the streams of the state is encouraging a research program at the University of Washington which would convert the waste products of the pulp industry into useful by-products. Under the direction of Dr. H. K. Benson of the University of Washington chemistry department and financed by the Pacific Coast district of the National Council for Stream Improvement the research group has already produced yeast, butane alcohol, sugar, lignin, ammonia, and carbon from the waste sulphite liquid. Possibilities for

TACOMA—Three of nine major improvements costing in the neighborhood of $2,000,000 were completed last month by the Port of Tacoma. Grain elevator capacity has been enlarged from 500,000 bu. to 1,000,000 bu., and two fruit and vegetable processing buildings will be occupied by Kelley-Farquhr Co. Plans for a $700,000 transit shed on Pier 2 are nearly completed and construction is expected to begin late this year.

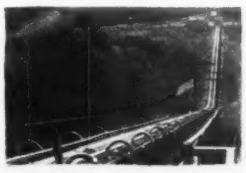
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producing glues and plastics from lignin are being studied.

Another project underway at the University of Washington involves the use of the high frequency generator which is the product of Northwest Syndicate at Tacoma. Now out of the laboratory stage and in the process of being adapted to plant production is the new method of utilizing narrow strips of veneer formerly wasted.

The process, once it has been successfully used commercially is expected to be adopted by the entire plywood industry, since a 3 to 4 per cent saving in veneer losses and sizeable reduction of operating costs are predicted.

Still in the field of new developments, the Aluminum Company of America recently granted $4,000 to the Washington Agricultural Experiment Station for the purpose of aiding in the development of an improved cranberry harvester. Present harvesting methods are said to cause some injury to the berry which may be eliminated by the development of a new machine.

Aluminum continues to be a leading item in the industrial news of the Northwest. Kaiser interests at Spokane announced that the Trentwood mill met its first production schedule of 2,000 tons in July. At the Mead reduction plant the second pot line was placed in operation the first of August and the third was expected to be in operation before the end of the month. At full capacity the two plants will take about 250,000 kw. from the Grand Coulee-Bonneville power system, the Bonneville Power Administration reported when announcing the signing of a contract for the power.

At Portland and Tacoma aluminum also made news. The first pot line of the Troutdale plant was expected to go into operation about the middle of August under the guidance of Reynolds Metals. War Assets Administration ordered an engineering survey of the aluminum plant at Tacoma. One of the highest production cost plants to be built and operated during the war, the Tacoma plant is believed in some quarters to have fair possibilities of producing the light metal at a cost which would permit a profit under peace time conditions.

New aluminum products also continue to pop up here and there. Another Kaiser enterprise, Kaiser Community Homes, Inc., is planning to mass produce parts for 1,000 homes to be erected west of Portland. Aluminum from the Trentwood mill is expected to be used in the production of roofs and garage doors.

SPOKANE—A branch office of the U. S. Dept. of Commerce will soon be located at Spokane to provide special counselling service to veterans and small business men. . . . A local source of petroleum coke is being hunted to serve the aluminum reduction plant. At present the product is being shipped from southern California.

N. C. Jannsen Drilling & Manufacturing Co., Seattle, last month launched a 60-ft. fishing vessel with a superstructure built of surplus aluminum sheets procured from the Boeing surplus of materials originally intended for B-29 aircraft. The hull of the vessel is of conventional steel construction.

Indicative of the interest in promoting industrial development in the Pacific Northwest four chambers of commerce have brought out new literature putting forth the advantages of as many locations for new industrial and commercial ventures. The Seattle chamber produced a 4-page market analysis emphasizing the buying power of the Washington population, and incidentally, the entire Pacific Coast. Among all cities of the nation Seattle, Spokane, Portland, and Tacoma were listed first, second, fourth, and sixth respectively in estimated per capita net buying power.

The Portland chamber published an 8-page brochure outlining present industries, natural resources, and distribution facilities. Tacoma chamber's 24-page brochure is a presentation of basic facts for industry with some facts well detailed, particularly those with regard to water, power, and labor. The Olympia chamber in a new single sheet plays up the available industrial sites and conveniences of transportation facilities.

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Changes in ownership among industrial firms both accomplished and proposed made up a large share of the news in the past six weeks, particularly in the Tacoma area where two large plywood firms changed hands. Management was brought closer to home when control of the Harbor Plywood Corp. was sold by Chicago interests to a group of Pacific Coast and eastern interests. Earl Lee Kelly, president of the First California Co., assumed chairmanship of the board and three Washingtonians were elected to board membership. Five management officials of Wheeler-Osgood Plywood Co. purchased that company from the trusteeship which had held control since reorganization in 1938. N. O. Carver, vice president and general manager under the trusteeship now becomes president and treasurer.

Sale of the ferro-silicon plant at Rock Island, Wash., was refused by the War Assets Administration because the bidder proposed to dismantle and export the plant. WAA indicated that another bidder is expected to survey the plant with a view toward purchasing for the production of phosphate fertilizer. Another WAA sale, this one completed, involved the transfer of the anhydrous aluminum chloride plant at Tacoma to the Hooker Electro-Chemical Co. which has been operating the plant under lease.

Proposed sale of the 30-year-old Commercial Iron Works of Portland came as rather a surprise. Commercial built 200 ships during the war and had established a firm business in machine, foundry, and mechanical engineering work. About the middle of July Winston W. Casey, president, announced that the entire facilities of the company were available for immediate sale. A serious illness suffered by Casey last year is believed to have been a factor in the sudden decision to disband the concern.

PORTLAND—Swan Island shipyard, operated by Kaiser interests, is rapidly being converted to peacetime uses. Manufacture of mobile concrete mixing plants and hoisting towers has been begun under a franchise from Mixermobile Manufacturers of Portland. Fabricated machined items for the Dallas Machine & Locomotive Works and the Klamath Machine and Locomotive Works are also in production at Swan Island. The primary interest of the shops is expected to be in the development of aluminum products which would tie the plant in with the Trentwood and Mead plants at Spokane. . . . Prefabricated Engineering Co., a division of C. D. Johnson Lumber Co., purchased the Columbia Steel Castings Co. property and expects to produce 20 to 25 prefabricated houses per day. . . . Western Waxed Paper Co. has started a $500,000 expansion of its North Portland plant.

Washington has led all Western states in the trend toward industrialization since 1940, according to figures released by the U. S. Bureau of Labor Statistics. Non-farm employment in the state of Washington gained 34.4 per cent. In Oregon a similar trend was noted with an increase of 27.5 per cent in non-farm employment.

In the July election voters authorized the Port of Olympia to issue $300,000 in bonds to finance the construction of a cold storage plant. Storage of frozen foods prior to shipment will be the primary use for which the new plant will be designed.

Management School Opens in San Francisco

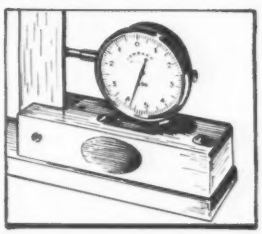
A new School of Management has been established as a department of Golden Gate College in San Francisco, and Joseph M. Trickett, director of organization planning at Columbia Steel Company, is leaving that post to become dean of the school. Instructors will be drawn from the ranks of active business executives. The school opens October 1.

The school will offer a two-year degree course to students who have already completed two years of college work or the equivalent. The first year will be devoted to basic subjects that underlie all phases of management, and the second year will provide for more specialized courses in the fields of production, distribution, industrial relations, finance, public administration and small business management. There will also be evening courses for those who wish to get management training while continuing their full-time employment.



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On precision jobs, requiring a static position and mental alertness, workers undergo nervous tension which often results in fatigue. Tests have shown that the act of chewing helps relieve tension—helps workers stay alert, thus increasing their efficiency to do more accurate work. For this reason, many plant owners urge workers to chew Wrigley's Spearmint Gum on this type of job.



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AA-88

REGIONAL REVIEWS

SIERRAS TO THE SEA

SAN FRANCISCO.—Despite uneasy labor conditions among waterfront workers in the cities about San Francisco Bay and the Sacramento River ports, business in the area is expanding in a crescendo.

In fact it is expanding so fast that approximately 20 per cent of the $5,405,998 worth of commercial, industrial and institutional construction authorized by the San Francisco Office of Civilian Production Administration in the last four weeks of July was allowed under the classification of "hardship cases."

Cases of that type are those in which the applicant faces severe business losses for such reasons as fire, eviction, or heavy commitments in purchase of materials and equipment contracted for prior to the Veterans Housing Program.

In San Jose two big businesses have recently announced location of plants there that will bring payroll money into the city at the rate of $2,000,000 a year.

One of the two is the Maywood Glass Company, a division of the Anchor Hocking Company which is one of the largest glass manufacturers in the world. The other is the H. D. Lee Company, largest manufacturer of union-made working clothes in the world.

A few miles to the north, at Sunnyvale, Joshua Hendy Iron Works have been given another order from *Time* Magazine for a four-color press that will print both sides of a sheet at once and at a speed three times that of present presses. The press is to be set up in the magazine's Los Angeles plant.

At the same time officials of the Sunnyvale firm announced receipt of this order, they also stated that other orders for presses are in the offing in sufficient quantity to keep the plant busy in such work straight through 1947. Coupled with these announcements was another to the effect that Oakland's Nordstrom Valve Company was placing orders for valves at Sunnyvale that would total more than $4,000,000 in a year.

Indicative of the growing population of the San Francisco Bay area is the order for construction of a $500,000 grain elevator at Islais Creek. The structure will have a capacity of 500,000 bushels and will permit the handling of bulk shipments of grain.

New Cars, What Are They?

At the Ford Motor Company plant in Richmond 175 cars a day are now being assembled, and with six weeks continuous flow of parts and materials the rate can be doubled, according to Ivor De Kirby of the sales department. A complete line of cars is being turned out and allocations to dealers are not only on a basis of past sales but also take into account wartime shifts in population. In Southern California the Ford assembly plant is reported to be turning out 125 cars a day.

Considerable pressure is developing for a 30-foot channel up the Sacramento River that will make California's capital a deep water port, when the project is finally instituted and completed. Reflecting this pressure is a recent statement by U. S. Senator W. F. Knowland (Rep., Calif.) to the effect that he is urging an appropriation of $12,742,000 for that purpose.

Indicating the way in which the Bay area is acting as a unit to further its general best interests is the formation of the San Francisco Bay Area Council. Made up of representatives from nine counties, the body will spend $100,000 a year publicizing the area. Executive vice-president and general manager of the council is Frank E. Marsh, recently Washington representative of the San Francisco Chamber of Commerce.

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REGIONAL REVIEWS

CONTINENTAL DIVIDE

DENVER. — Beloved old Charles Boettcher is gradually letting go. One of the greatest empire builders the Rocky Mountain West has ever known is letting his son, Claude, make more and more of the decisions that control the destinies of the many-sided industrial domain dominated by the Boettcher family.

Harry Warner and other trusted lieutenants stand beside Claude, keeping steady hands on the reins during the period of transition. The grand old man of Denver's 17th Street is past 95, and while he refuses to retire he is finding less fun than he used to in riding a Boettcher-controlled street car past the Boettcher's Brown Palace Hotel to a Boettcher bank where most of the Boettcher companies have their headquarters.

It isn't easy for anybody to like austere, proud Claude Boettcher. However, the businessmen of Colorado admit that he is smart in his own right and an able executive and financier. Claude's son, Charles II, is showing some progress toward living up to the name his grandfather made great, although he seemed a long time outgrowing his playboy reputation, climaxed years ago when kidnappers collected $60,000 ransom for returning the gay young blade safe and sound. The price was too high, many cynics averred, but since then "young Charlie" has engaged in a few financial manipulations which caused the wise ones to concede that he may turn out to be a real Boettcher after all.

Dreams Into Reality

But it is the elder Charles whose adventures thrill industrialists and businessmen, who wish such men were more common. The West's thriving beet sugar industry is more the handiwork of Charles Boettcher than of any other one man. A host of Boettcher cement companies play important parts in fashioning the gigantic structures where the region's raw materials are processed. Other "Ideal" cement structures convert the West's rampaging rivers into power plant slaves.

He thought the Rockies ought to kill and pack as well as to raise beef and lamb, so he brought into being one of the first modern packing plants. This Denver plant later was taken over by Swift & Company and now is just a memory in Denver's teeming meat packing industry.

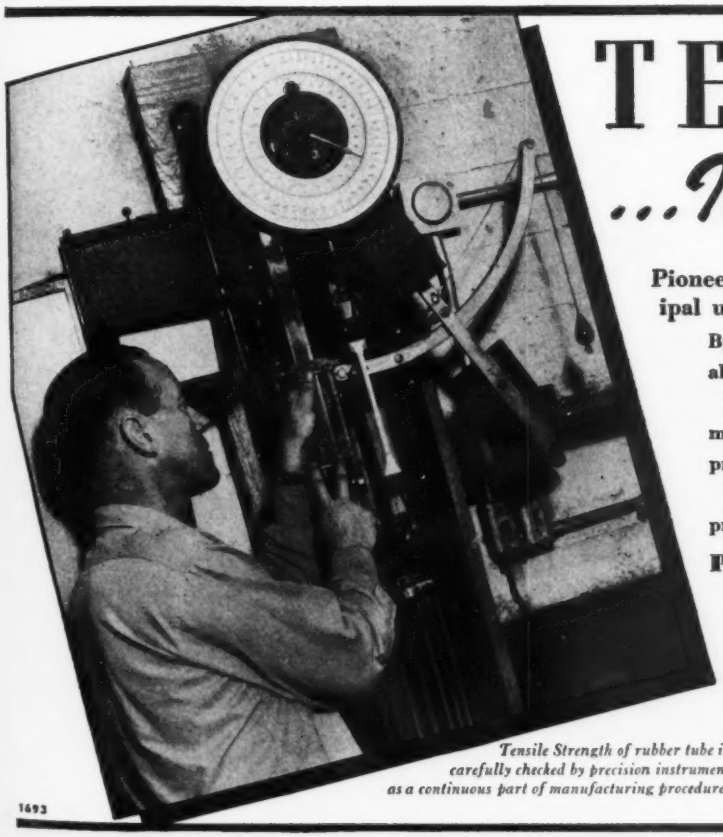
Mining and reclamation work call for explosives and explosives call for fuses. Instead of importing them, Boettcher built a fuse factory in Denver, now one of the important plants of the National Fuse Company.

Anyone delving into the various enterprises that have been initiated or given a life-saving lift by Charles Boettcher and his men soon grows pop-eyed with amazement. And it isn't a story of long, long ago but part of the warp and woof of today's business and industry. There are benefactions, too, such as the Charles Boettcher School for Crippled Children in Denver, where hundreds of kids who seemed to have two strikes on them are emerging triumphantly to lead lives worthy of the old man who sees to it that they lack nothing money can provide.

Who knows? Now that sour-visaged Claude Boettcher is becoming the boss instead of just a dandified Junior, he may mellow a bit and become more like the grand man he was lucky enough to have for a father.

The Law Comes to the West

One of Colorado Spring's new industries, the lawbook publishing firm of Frank Shepard Company, is putting up a $300,000 two-story concrete building with 56,000 feet of floor space. With a staff of 250 and a pay roll of $750,000 annually, the company becomes one of the major employers of the Pike's Peak region. W. J.



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Packard, president of the company, has directed the transfer of the big publishing business from New York City to Colorado Springs.

Little Gas Slippers

Now that chemists and technologists can make practically anything out of anything, nylon hose made of natural gas may be just around that bend. Plastics of incredible variety already are being turned out with natural gas as the raw material. One of the big nitro-cellulose products firms has erected a gigantic factory in Texas within sight of the wells that produce the essential ingredients, and a long-range industrial swing is in progress to move the chemical industries close to the source of supply.

Biggest source of natural gas in the whole wide world is the Panhandle area of Texas and Oklahoma, extending over into southwestern Kansas where the Hugoton gas field outranks even the Texas Panhandle field in production and reserves. New Mexico's Union County and Colorado's Baca County are considered part of the same oil and gas structure, which is getting the biggest play of the year from more than a dozen leading oil and gas companies. The once desolate "dust bowl" area looks like a good bet to become one of America's thriving industrial regions, the day after tomorrow.

Clever merchandising programs are whipping the air freight business through its swaddling-clothes stage so fast the airlines are dizzy with success. Continental Air Lines and Sears-Roebuck teamed up to give customers of the big mail order house overnight delivery service from Kansas City to Denver, and results nearly floored everyone. Continental's cargo sales manager, John A. Smith, and Sear's Denver sales promotion manager, James E. Peri, are credited with the bright idea of the special service. It enables catalog buyers to purchase goods by telephoning the "Airborne Telethrift" divisions of local Sears stores, and having their orders relayed by direct wire to the Sears warehouse at Kansas City.

Western Air Lines is boosting its freight business along 4,000 miles of routes in nine Western states with tariffs as low as 21 cents per ton mile. In Colorado's lush Arkansas Valley the beemasters have plans for the planes to carry away more than a million pounds of honey each year.

Skeleton Stays in Closet

With silver prices now up to 90.5 cents an ounce, Western mining men are shaking the hand of lean, slow-speaking Bob Palmer, the man who guided the six-months-long lobbying campaign in Washington, D.C. Palmer, head of Colorado's official Metal Mining Fund and secretary-manager of the Colorado Mining Association, prefers to give the credit to members of the Congress and enterprising mining men who went after higher silver prices and won an uphill struggle.

Just a little too much pressure would have upset the silvermen's applecart, because the far-heralded sins of the silver bloc would have made hot copy had anybody been aroused to make a fight of it. As it was, the fight was held down to a tussle between silver producers and manufacturers who use silver, and the press and the public couldn't see enough merit on either side to get excited. That was the way Palmer hoped it would be, because the silver producers had trouble enough contending against the well-heeled manufacturers and their great representation in the House of Representatives. Everything depended on getting the legislation through before the half-interested majority in the Senate might get skittish and stop championing the silver producers.

While some producers immediately began to bellyache that they can't break even at the new price, most turned to the business of getting out some metal for a change, admitting that the new price would make a world of difference and might even yield a bit of profit. But here and there one still finds a mining man who practices the trick learned years ago from livestock men—when conditions get so that profits can be made, agonize louder than ever so that nobody will know but what you're still half-dead. Such tactics are not part of master-strategist Palmer's technique, but he doesn't raise any fuss about it. He says the mining men have

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troubles enough defending themselves against outsiders without getting involved in internal squabbles.

Winter Sports Industry

Colorado is waking up to the pleasant discovery that its winter sports industry is spawning a profusion of manufacturing enterprises, just as the summer sports industry did many years ago. It seemed very logical when Colorado's world-famous fishing streams became the locale for such noted manufacturing firms as the Goodwin-Grainger fishing rod company and the Wright & McGill trout fly and fish hook factories. But even so, Denverites who have America's Alps in their own back yard seem surprised to see the rapid growth of such firms as the Griswold Ski Company and the Walter Linton ski factory.

Colorado long enjoyed a commanding lead in canvas fabricating, chiefly because Denver seemed a likely place for sportsmen's tents, sleeping bags and other such. Awnings, deck chairs and other canvas products rounded out the line. During both World Wars, the Denver canvas goods factories worked on 'round-the-clock schedules turning out their specialties for the armed forces, but all now seem happy to turn back to their first love—the outfitting of sportsmen who get out and rough it just for the hell of it and not to save the world for Democracy.

Closely related to the sports-stuff factories now springing up in increasing numbers in the Rocky Mountain region are Denver's big mail order sporting goods stores, notably Dave Cook's, Max Cook's and Gart Brothers. These firms ship sporting goods all over the world and issue fancy catalogues that outshine the proverbial Monkey Ward numbers in lure if not in bulk. Nobody has ever figured out why sportsmen, farmers and other buyers of nationally known sporting goods items prefer to buy them in the West, but evidently they do, and it makes a sizeable item in Denver trade totals.

Majors Lead the Way

Only a few years ago the oil industry in the Rocky Mountain states was following the usual pattern wherein the "little fellows" pioneered, sweated, slaved, often lost their shirts and finally opened up an oil field here or there, after which some big company would buy the little one and proceed to develop the field to its full capacity.

Not so today. Now it is the big fellows who are leading the way, partly because today's deeper drilling takes plenty of blue chips and the big fellows seem to be the only ones who have that kind of money in abundance.

Rangely Field in Colorado was and is an operation of the California Company, subsidiary of Standard of California, although some insignificant shallow production had been developed earlier by small local concerns. Now a dozen of the nation's leading oil operators are in on the Rangely oil play, including the Standard of Indiana which has control of the only pipeline outlet.

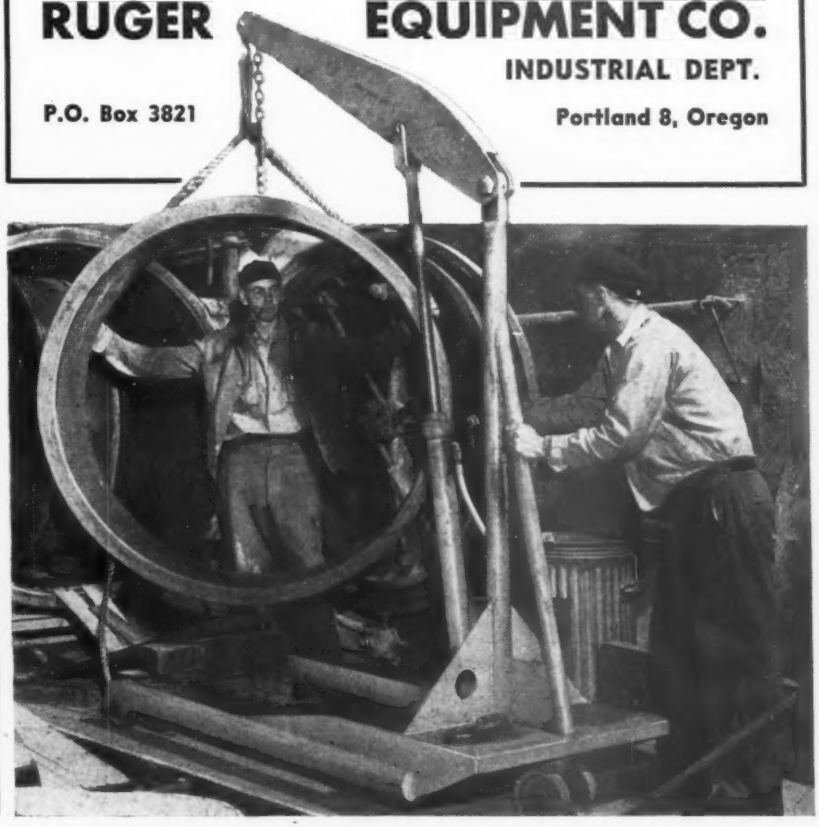
And the fields of tomorrow, following the Rangely pattern, now being explored by the big companies, generally follow the same pattern. Geophysical crews find a likely location for a deep test. The major operator secretly buys leases on an enormous block of land—frequently from 75,000 to 200,000 acres—surrounding the test hole, and then drilling begins. Little operators peer over the big fellow's shoulder and between his legs to learn what is going on, knowing that a discovery will make everything in that area at least a good speculation even if it does not actually pay off in oil.

Whereas the little fellows used to curse the major oil companies, the feeling is very different today. Everybody knows that only the great companies could and would finance the costly exploratory campaigns needed to open up new oil fields. Today David and Goliath are pals!

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REGIONAL REVIEWS

THE WASATCH FRONT

SALT LAKE CITY.—Desultory prospecting for oil in Utah over the past three or four decades has failed to produce any significant discoveries. But if there are commercial oil pools in the state, the search now under way should uncover them.

Center of the exploratory activities is the Uintah Basin, but leasing is under way over the entire eastern and southern portions of the state. Some 20 seismographs are combing an area comprising about a dozen counties and more than 3,000,000 acres of land have been leased by major companies.

Attention was focused on the Uintah Basin by the Rangely Field, just over the state line in Colorado. A test well was recently started near Vernal by the Carter Oil Company, subsidiary of Standard of New Jersey and the largest lease holder in the basin area.

Other companies which are leasing and doing exploratory work in the state include Stanolind Oil Company, California Company, Phillips Petroleum Company, Texas Company, Raven Oil Company, Pacific Western Oil Company, Utah Southern & Equity Oil Company, Mountain Fuel Supply Company, British American Company, Continental Oil Company, and General Petroleum Company.

Black Gold Prosperity

Regardless of the outcome of the intensive search, it has already brought boom times to many sections of the state which have heretofore been almost entirely dependent upon farming and livestock grazing. A noteable example is Vernal, county seat of Uintah, which had a population of about 2200 before Colorado's Rangeley Field was brought into production. The population is now about 5,500 and housing facilities are little more than when the population was less than half that number. Two families in every garage is rapidly becoming a grim reality there.

Business and service facilities of all types are swamped by the influx. As one merchant commented: "We haven't enough of anything but people."

Aside from the boom in business, the leasing is adding substantially to the area's income. Most of the leases are on a basis of 50 cents per acre a year and one-eighth royalty. To a farmer with a small plot of cultivated land, this does not mean much unless oil is discovered. But to livestock men with several sections of grazing land the cash income is not inconsequential. Some of them, in fact, are taking in far more for oil leases than they were ever able to realize from livestock operations.

Offices of attorneys in the small communities are piled high with cases to quiet land titles. Much of the area went through tax sales prior to and during the depression years and the oil companies want to be sure titles are clear before sinking $200,000 to half a million in test holes.

The state, in characteristic anticipation of new tax resources, is getting ready to collect on the oil, if and when found. At present there is no provision in the constitution for taxation of oil and other minerals on a production basis. But a special session of the legislature is expected to submit a permissive amendment to the electorate in the election this fall. No opposition has developed to the proposed amendment. The fight will come when the legislature starts fixing the rates.

Carbon County, which is extremely sensitive to criticism of smoke produced by its coal, is trying to do something about the smoke problem itself. Through cooperation of the Associated Civic Clubs of Southern Utah and the Seattle, Wash.,

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chamber of commerce, plans are being formulated for construction of a smokeless fuel plant near Wellington. The plant, to be financed largely in Carbon County, will use the E. H. Records process which has been thoroughly tested on Utah coals in a pilot plant at Tacoma.

Fire Without Smoke

The process produces a semi-coke char through carbonization at temperatures between 1000 and 1300 degrees. Expected yield of Utah coal is 1400 pounds of char, 42 gallons of tar oil and 4000 cubic feet of gas per ton.

Several other projects are under way in the state to produce a smokeless fuel in connection with extractive processes on coal.

Ogden, Utah, one of the most alert cities in the intermountain region, has set up a research and rehabilitation trust fund to study and promote the industrial and trade potentialities of the area. The fund, which will coordinate its activities with the chamber of commerce, will seek to "sell" to private industries the advantages of Ogden as a distributive center. One of the selling points will be the fact that the army and navy selected Ogden and vicinity for the location of supply centers serving the Pacific Coast.

To manage the fund and its activities the Ogden chamber has acquired the services of Paul V. Nash, secretary of the Pocatello, Idaho, chamber of commerce since 1928.

United States Steel Corporation is moving faster at Geneva than even the local optimists anticipated. Production units now in operation include two of the four batteries of coke ovens, two of the three blast furnaces, three of the nine open hearth furnaces and the slab mill. Before this appears in print the plate mill will be rolling on a basis of one turn per day.

The issue of union representation at the plant is not likely to reach a settled condition for some time. The AFL, which has been the bargaining agent since operations started, was recently certified again following an election which was decided by four challenged votes. But the CIO-United Steelworkers of America promptly filed a petition for another election. Inasmuch as the force is being rapidly increased, they will be able to claim soon that only a minority of the workers participated in the recent election.

Record Breaking Tuna Pack Predicted For '46

With 1,242,485 cases of tuna packed during the first five months of 1946 the Department of the Interior, Fish and Wildlife Service, has predicted a record breaking pack for the year of about 5,000,000 cases.

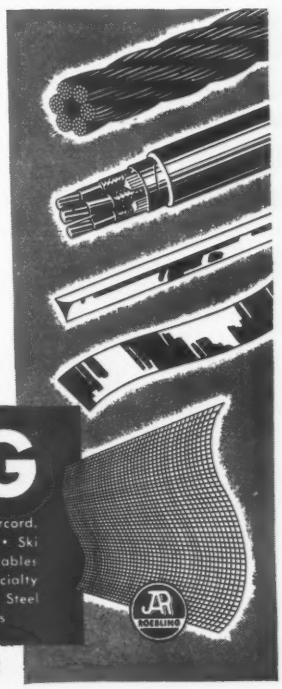


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PACEMAKER IN WIRE PRODUCTS

LABOR
AND THE INDUSTRIAL WEST

REGARDLESS of activity in other branches of labor, heavily increasing organizing activity may be looked for among office and professional workers during the balance of the year throughout industrial centers of the West.

Though public attention to labor matters may well be focused on a Pacific Coast waterfront strike this fall, it would be a mistake to discount the rising importance of union activities among white collar workers.

Last Frontier

In a sense this classification of workers forms labor's last frontier. True as it is that other substantial segments of labor are still unorganized, labor leaders feel that a successful organizational drive on the white collar class at this point would do more than anything else to consolidate labor's gains of the past several years. Further than that, once they are brought into labor's fold, it will be far simpler to extend labor's strength into the few remaining fields.

Membership gains in the white collar class for both AFL and CIO unions during the war years have been substantial, despite their not being as spectacular as those in traditional classifications.

While organizers in professional and office worker unions are tight-mouthed about actual figures it would be a mistake to assume that it is because there is little for them to tell. One of the most capable of the CIO organizers, after stating that his union had upped its membership about 150 per cent during the past two years, admitted that the corresponding union in the AFL was definitely holding its own right in his own territory. Furthermore, it was quite obvious that he felt no special sense of fellowship for the other organization.

Members of management used to the tactics employed by unions running the gamut between laborers, on the one hand and machinists, on the other, should not expect precisely the same techniques to be employed in organizing the white collar workers or in carrying on bargaining operations when organized.

Basic principles are the same, of course, but marked differences will appear in their application.

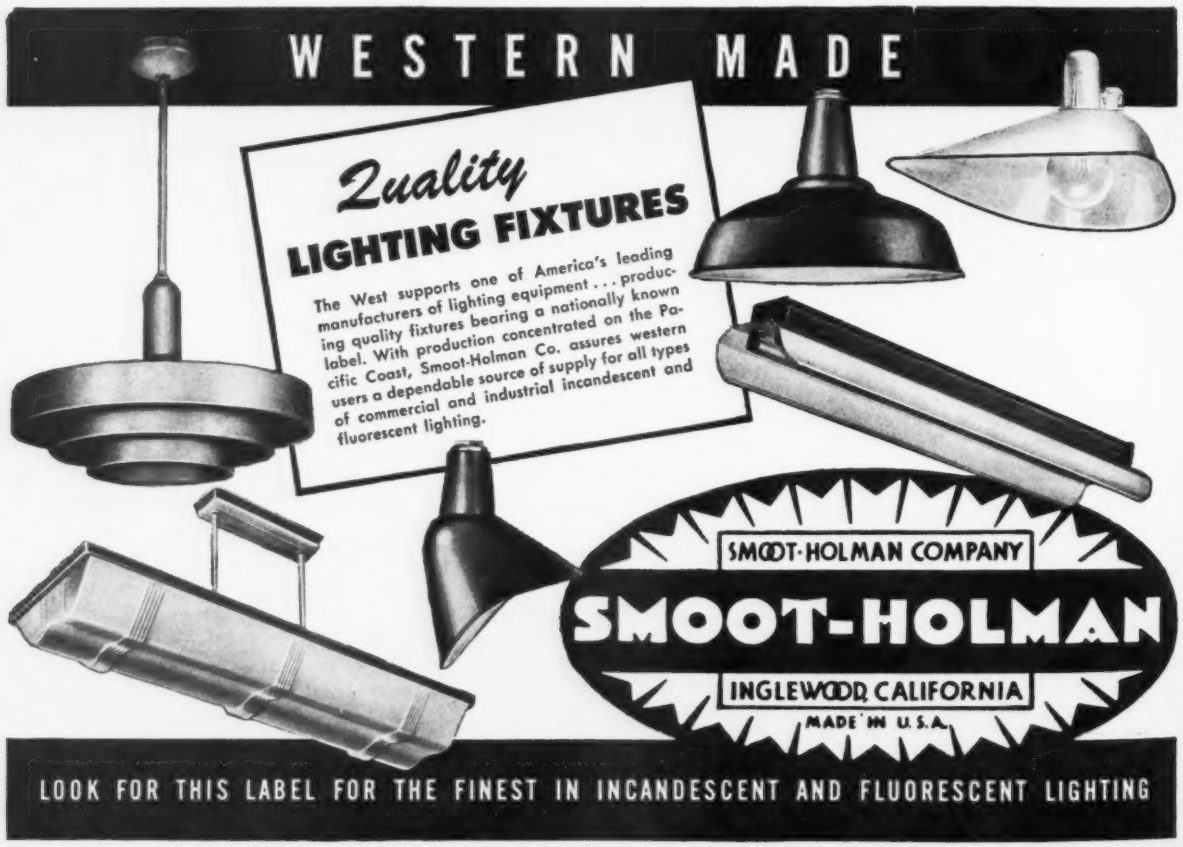
Obviously, other things being equal, a good machinist is far more of a brain worker than a good file clerk. Nonetheless, for a variety of reasons that should be perfectly apparent, white collar workers generally consider themselves a brainier lot than workers outside that class.

On the whole, organizers for professional and office workers unions recognize this for what it is worth and modify their tactics accordingly.

Hue and Cry

For that reason management would do well not to expect the same "hue and cry" activities in attempts to organize its white collar workers that would be used to accomplish the same ends in their shops or plants. A much more subtle approach and action will be and is being used.

A case in point is that recently occurring in San Francisco's architectural firm of Mendelsohn, Dinwiddie & Hill. When management asked Barney Young, international representative for the United Office Workers, how the union knew that it represented a majority of the firm's employees, Young responded by offering to hold an unofficial election. Results of the



election held with ballots, blank envelopes and other stage effects were 6 to 0 in favor of the union.

Incidentally, those thinking an election involving six workers is such small potatoes that it isn't worthy of mention have decidedly the wrong approach. The principle here is that the big fellows will tumble easier when a fair number of the little ones have been picked off.

Illegal Boycott Threats In Redwood Lumber Strike

Despite the fact that secondary boycotts are still illegal in California (see *Western Industry*, August, page 70), the August 7 issue of the California State Federation of Labor bulletin has this to say about the eight-month-old strike in the redwood lumber industry.

"The boycott on this unfair redwood is nation-wide, and the lumber will be 'hot' wherever it goes. Unionists are expected to notify lumber dealers and contractors that redwood is 'hot,' and that union carpenters and other building trades mechanics will not handle, transport or work it."

The bulletin also has this to say: "The strike continues in full force, and the operators have been unable, to date, to recruit strike-breakers."

Officials of the California Redwood Association, however, have a different story to tell. According to them, of the nine struck mills at the beginning of the strike, five reopened when the strike was six months old and are continuing to operate.

Picket lines about the plants have been weak and are said to be getting progressively weaker. On August 13 the five mills reported a total of 848 men coming to work. Throughout the strike only two incidents of violence have occurred, the association says.

Cause of the strike assertedly lies in the demand for a closed shop. At the beginning of the year workers in the nine mills voted a strike if their demands for wage increases were not met, the association says. But when wage increases were granted union officials pulled out their men on the companies' refusal to grant closed shop contracts.

Number of workers affected in the nine mills, representing about half of those engaged in the redwood industry, is said to be 4,200.

Association officials state that the mills have been repeatedly threatened with boycotts, but point out that institution of a boycott, aside from its illegal aspects, will be difficult to enforce.

Evidence that the threat is not an idle one appears in an AFL warning sent to all state federations that all unions should be advised not to handle any redwood lumber unless it is first cleared with the Redwood Lumber and Sawmill Council at Eureka, California.

When a Closed Shop Is Not a Closed Shop

According to Washington's Attorney General Troy Smith, any closed shop agreement made between the University of Washington and Building Service Local 46, a union, must give the university regents final authority in selection of employees and in the protection of veterans' rights.

In addition to this the attorney general also ruled that the union is sole bargaining agent only for union members who may be hired by the university and not for non-union university workers.

NLRB Orders 10 Re-hired Who Wouldn't Join Union

When notice of termination of a labor contract, such as that for a closed shop, has been given and the expiration date of the contract has passed, the contract is no longer in force.

Despite its seeming obvious that such would be the case it took a decision of the NLRB to clarify the matter at Coos Bay, Oregon, recently.

The NLRB discovered that ten workers had been discharged from their jobs for their refusal to join the AFL Lumber and Sawmill Workers Union, ordered the ten reinstated in their jobs after finding the employer's contract with the union had terminated a week before the lay-off.

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Five Steps Needed In Western Market Studies

NO company, however small, can afford to ignore the field of market research, says N. H. Engle, director, Bureau of Business Research, University of Washington, in an article appearing in the July issue of "Pacific North-West Industry" a university publication.

But though no company should ignore market research, and all of them should practice it, they should take great pains to inform themselves thoroughly of certain basic principles before embarking on a market research program.

One of these principles is to decide on taking five distinct steps that are essential to any market research program. These five steps, Mr. Engle says, are:

(1) Formulation of an accurate definition of the problem to be studied with the listing of a set of specific questions to be answered.

(2) Collection of essential facts from three sources: (a) internal records of the business itself, (b) available published facts, (c) new facts from first-hand field investigation.

(3) Processing of the facts into a simplified, understandable form.

(4) Analysis and interpretation of the facts in the light of the problem to be solved.

(5) Presentation of the report to management in a conference in which possible solutions are considered and appropriate courses of action are indicated.

Another principle of great importance is that market research should have an independent and coordinate status with sales and advertising work. Since it provides information for planning and coordinating and evaluating the advertising and sales efforts of a company, the director of a market research program should be responsible only to a major official of the company, such as a vice president in charge of distribution.

This is true, no matter which of the two main alternative methods of conducting such a research program are used. It is equally true whether the company has its own research department or retains an in-

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dependent market research organization to handle its program.

In speaking of using independent research counsel Engle counseled businessmen to take great care in selecting qualified specialists. Citing the cases of California and Pacific Northwest firms that paid $10,000 and $50,000, respectively, to Eastern consultants for reports that could have been obtained locally for far less than these amounts, he said no specialist should be hired until he had shown how he intended to handle the problem given him. If the specialist's method of approach to the problem did not include the five steps outlined above, then a firm should be extremely cautious about going further with him.

Once a man or an organization has been selected to do the job, however, Engle says "do not try to tell him how to do his job." Quite pertinently he asks "If you know all the answers, why are you seeking market research counsel?"

In concluding his article, after giving a graphic example of how lack of proper market research can itself cause business failure, Engle describes lack of the failure to study markets as one of the chief causes of busines failure in the country.

Arizona's Industrialization Forces Power Co. to Spend More

Despite the shutdown of much of the wartime industry in Arizona, officials of the Central Arizona Light and Power Company, Phoenix, had to revise its proposed million dollar expansion upward because of the city's continued industrial growth. The company now estimates it will take an expenditure of $2,750,000 to increase its generating facilities enough to handle power demands.

L. K. Doutrick, vice president and general manager of the company, in announcing the project said the company thought it would be at least three years before power is obtained from any other source.

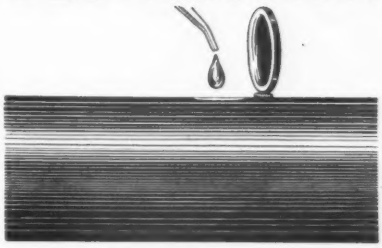
A generating unit and other equipment capable of producing 33,000 kilowatts will boost the plant's capacity to 77,000 kw. The steam plant building west of Phoenix will be enlarged almost 50 per cent to accommodate the new unit.

Puget Power Bags First Place Once More

Because of the excellence of its make-up, content and typography the 1945 Annual Report to Stockholders of the Puget Sound Power & Light Company has been awarded first place in a nation-wide contest sponsored by the Public Utilities Advertising Association.

The award marked the third consecutive time that Puget Power's entry has achieved national prominence. In 1943 and in 1944 it also received first place in similar nationally conducted contests.

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THE WESTERN OUTLOOK...NEWS...STATISTICS...

THE PICTURE

Latest developments in the statistical picture of the West, compared to the month last reported, include the following:

- Employment (June), continued rise
- Plywood (June), 5% drop
- Copper (June), slight rise
- Oil (June), slight rise
- Iron and Steel (June),
- Coal (June), slight rise
- Metal products (June), substantial rise
- Electric Energy (June), net decline
- Unemployment Claims (July), continued decline
- Warehousing Space (June), no change

Employment

In the industrial centers of the West the trend in employment was upward for industry in general. In the Pacific Northwest especially reports show that far healthier conditions are growing than existed last spring.

Production workers in nondurable goods industries of California reached the figure of 217,900 in July, highest figure for that month on record, according to the state's Department of Industrial Relations, Division of Labor Statistics and Research.

EMPLOYMENT—DURABLE GOODS INDUSTRIES
(Figures from Calif. Div. of Labor Statistics)

	San Francisco Bay Area	Los Angeles Indust'l Area	Total State
February 1946	33,700	127,800	206,400
March	34,400	132,200	211,800
April	52,300	129,600	231,400
May	57,200	126,400	235,500
June	61,800	134,900	251,800

Unemployment—*Claims*

Weekly average unemployment insurance compensation claims in Washington for July rose by 3,454 over June, according to the Bureau of Employment Security, Social Security Administration.

In California, reports for the first three weeks of July showed average claims only 29,245 less than June's total of 279,224, indicating a heavy rise in unemployment for that state.

Figures reported below are obtained by averaging the data submitted to the Bureau of Employment Security by the reporting states in their weekly reports.

	Arizona	California
May	11,526	291,323
June	10,612	279,224
July	9,356	249,979
	Nevada	**Oregon**	**Washington**
May	2,177	36,389	61,049
June	1,935	28,210	49,308
July	1,717	21,180	52,962

Employment—*Eleven Western States*

Estimated Number of Employees in Non-Agricultural Establishments—In Thousands—Source: U. S. Bureau of Labor Statistics

ALL INDUSTRY DIVISIONS

	Montana	Idaho	Wyoming	Colorado	New Mexico	Arizona	Utah	Nevada	Total Mountain	Washington	Oregon	California	Total Pacific
January 1946	109	95.5	68.9	255	82.8	99.5	130	40.6	881	512	290	2,181	2,983
February	108	95.8	62.3	252	81.1	101.0	127	42.4	870	512	291	2,206	3,009
March	110	98.1	61.3	260	81.2	102.0	130	42.4	885	514	295	2,249	3,058
April	109	96.6	56.4	256	81.1	96.6	129	41.7	868	521	297	2,332	3,150

MANUFACTURING

January 1946	9.6	17.1	5.3	47.6	8.1	6.8	15.2	1.3	111	136	76.0	567	779
February	12.9	16.8	5.4	42.3	8.2	10.9	17.9	3.4	118	162	110.0	550	845
March	13.6	16.9	5.4	47.8	8.4	10.9	18.1	3.3	124	160	110.0	558	828
April	13.9	17.3	5.5	47.8	8.6	10.0	17.9	3.4	124	160	107.0	594	861

Warehousing—*Percentage of Space Occupied*

Figures are based on reports from 634 warehousing firms and are made available by the Bureau of the Census, Dept. of Commerce.

	Mountain and Pacific Division	Idaho	Montana, Utah and Wyoming	Arizona, Nevada and New Mexico	Colorado except Denver	Denver	Washington except Seattle	Seattle	Oregon except Portland	Oregon	California except L.A. and S.F.	Los Angeles	San Francisco
January 1946	89.9	95.9	76.1	95.9	59.5	88.3	90.7	96.2	97.3	....	80.8	94.9	92.0
February	90.3	95.5	76.5	91.4	77.3	87.8	91.9	97.1	97.3	....	80.9	93.7	91.9
March	91.3	88.2	81.3	94.4	70.7	89.0	94.0	96.9	97.3	....	80.5	95.6	92.8
April	90.1	89.7	80.8	94.7	55.7	89.8	87.8	93.7	....	....	76.9	95.2	92.1
May	88.9	89.6	82.1	97.0	58.1	89.6	83.3	93.9	....	90.8	75.2	96.0	89.0
June	88.9	83.6	86.8	94.0	56.8	95.0	84.2	91.3	....	92.6	76.6	94.3	88.2

Metal Products—*Shipments*

Value in thousands of dollars, according to figures furnished by the Bureau of the Census.

	CALIFORNIA					COLORADO	OREGON	WASHINGTON	GRAND TOTAL
	Los Angeles County	San Diego County	S.F.-Oakland (Alameda, Con. Costa, Marin, S.F., San Joaquin, San Mateo, Santa Clara counties)	All other counties	Total California				
January 1946	43,621	2,029	16,627	2,214	64,491	6,062	7,247	23,231	101,031
February	53,590	1,656	13,788	2,121	71,155	6,633	6,238	19,433	103,459
March	59,447	1,924	16,076	2,299	79,746	2,658	7,554	33,482	123,440
April	67,861	1,416	24,675	3,489	97,441	1,985	5,546	34,741	139,713

Wholesalers' Sales

According to figures furnished by the Bureau of the Census.
(in thousands of dollars)

	Automotive Supplies	Lumber and Bldg. Materials	Dry Goods	Electrical Goods	Furniture & House Furnishings	Groceries & Food, except Farm Products	General Hardware
JANUARY 1946							
Mountain	500	....	....	955	....	3,846	839
Pacific	2,554	....	1,432	4,211	1,322	....	33,95
FEBRUARY							
Mountain	570	....	....	941	....	2,474	761
Pacific	1,391	....	763	4,018	1,150	5,913	1,723
MARCH							
Mountain	703	....	....	1,002	316	3,804	1,121
Pacific	1,712	....	1,548	4,413	1,275	9,842	1,926
APRIL							
Mountain	829	745	....	1,092	317	3,832	926
Pacific	2,766	1,109	1,672	3,628	1,537	13,869	5,287

Electric Energy—*Produced in the West*

Production of Electric Energy for Public Use—In thousands of Kilowatt Hours—Source: Federal Power Commission

	Montana	Idaho	Wyoming	Colorado	New Mexico	Arizona	Utah	Nevada	Total Mtn.	Washington	Oregon	California	Total Pacific
January 1946	214,953	103,386	18,062	99,255	42,252	248,064	29,249	247,675	898,099	745,231	304,091	1,032,828	2,082,150
February	189,753	91,733	19,945	86,169	42,985	250,759	29,953	239,069	950,366	668,234	299,660	1,108,091	2,075,985
March	190,177	100,495	21,478	91,372	43,422	261,440	39,010	229,264	976,658	732,218	304,367	1,333,305	2,356,471
April	151,245	95,160	21,434	92,179	40,740	291,203	46,057	155,875	893,839	685,080	297,314	1,374,077	2,369,890
May	176,298	113,529	29,058	90,733	43,050	289,657	44,675	183,231	970,231	685,643	306,834	1,467,309	2,459,786
June	187,891	115,137	30,491	89,748	48,309	253,925	33,974	195,396	954,871	674,470	294,090	1,480,285	2,448,845

Freight—*Western Traffic*

After a substantial rise in June over the May totals, freight loadings in the West sustained a sharp drop in July.

Total traffic figures for all major railroad carriers in the eleven Western states from August 1945 through July 1946 are:

	Loadings	Eastern connections	Total
August	695,277	450,497	1,145,774
September	595,143	310,868	906,011
October	617,023	313,964	930,967
November	535,620	278,746	814,366
December	586,302	302,807	887,009
Jan. 1946	469,139	240,906	710,045
February	467,054	243,725	710,778
March	594,106	311,419	905,525
April	438,318	236,816	675,134
May	401,529	216,217	617,746
June	577,666	307,451	885,117
July	480,558	239,721	720,279

Oil—*On the Coast*

Total daily petroleum product deliveries rose and total daily supplies fell in the Pacific Coast territory for June, according to the Petroleum Economics Division, U. S. Bureau of Mines.

Total average amount delivered daily by oil companies in the area, including all deliveries to the federal government, offshore shipments and transportation and other losses, was:

All Products (1000's Bbls.)

	1944	1945
May	900,000	1,135,000
June	969,000	1,085,000
July	884,000	1,011,000
August	883,000	1,010,000
September	902,000	954,000
October	945,000	897,000
November	992,000	901,000
December	1,093,969	969,000
	1945	**1946**
January	1,066,000	917,000
February	1,124,000	947,000
March	1,068,000	962,000
April	1,148,000	851,000
May	1,135,000	864,000
June	1,085,000	871,000

Lumber—*Cumulative*

Reports on lumber production for the first 31 weeks of 1946, compared with the same period in previous years, and measured in thousands of board feet, are as follows, according to West Coast Lumbermen's Association:

	31 Weeks 1944	31 Weeks 1945	31 Weeks 1946
Production	4,803,749	4,126,007	3,520,561
Orders	5,063,124	4,397,471	3,480,147
Shipments	4,858,017	4,159,209	3,552,420

Western Pine Association figures covering Idaho White Pine, Ponderosa, Sugar Pine and associated species for 1946 through the week ending August 10, and compared with the same period for the preceding year, are as follows:

	1945	1946
Production	1,923,704	1,669,117
Orders	2,079,118	1,768,151
Shipments	2,057,925	1,783,838

Because of the strike in the Redwood lumber industry, about to enter its eighth month, no later figures than the partial figures for February have been issued, according to the California Redwood Association. February figures are:

Production	800 M feet
Shipments	2,000 M feet

Soft Plywood—*Output*

Source: U. S. Bureau of Census

(thousands of sq. ft. ⅜")

	Materials Produced		
	Moisture Resistant	Exterior	Total
June 1945	88,928	32,355	121,283
July	60,160	25,419	85,579
August	81,548	32,085	113,633
September	62,439	27,217	89,656
October	41,040	26,422	67,462
November	34,040	24,197	58,237
December	48,831	26,631	75,462
January '46	70,552	36,795	107,347
February	62,544	35,552	98,096
March	69,960	39,035	108,995
April	79,030	41,639	120,669
May	87,825	39,459	127,284
June	84,326	37,623	121,949

Iron and Steel

Pig iron and steel production for the Western area of the United States are reported by the American Iron and Steel Institute in net tons as follows:

Pig Iron:	Current Month	Percent of capacity	Year to date	Percent of capacity
November	86,986	37.3	1,521,980	58.6
December	120,498	50.1	1,642,478	57.9
Jan., 1946	83,979	34.9	83,979	34.9
February	40,363	18.6	124,342	27.1
March	107,605	44.7	231,947	33.2
April	83,270	35.7	315,217	33.8
May	84,799	35.2	400,016	34.1
June	104,808	44.9	509,179	36.2
Alloy Steel*:	**Current Month**	**Percent of capacity**	**Year to date**	**Percent of capacity**
August 1945	1,531	.....	29,645	.....
September	4,517	.....	34,162	.....
October	5,966	.....	40,128	.....
November	9,078	.....	49,206	.....
December	4,398	.....	52,348	.....
Jan., 1946	4,463	.....	4,463	.....
February	4,909	.....	9,372	.....
March	6,026	.....	15,398	.....
April	2,894	.....	18,292	.....
May	2,548	.....	20,840	.....
June	1,992	.....	22,832	.....
Carbon Ingots, Hot Topped*:				
September	3,623	.....	293,981	.....
October	8,442	.....	319,095	.....
November	6,049	.....	325,144	.....
December	8,379	.....	333,523	.....
Jan., 1946	3,170	.....	3,170	.....
February	4,317	.....	7,487	.....
March	4,287	.....	11,774	.....
April	5,952	.....	17,726	.....
May	6,499	.....	24,225	.....
June	6,284	.....	30,509	.....
Steel Total:	**Current Month**	**Percent of capacity**	**Year to date**	**Percent of capacity**
August	267,468	64.1	2,600,999	79.5
September	235,173	58.3	2,836,174	77.2
October	223,796	53.6	3,059,970	74.8
November	210,866	52.2	3,270,836	72.7
December	218,569	52.5	3,489,405	71.0
Jan., 1946	172,348	41.4	172,348	41.4
February	81,680	21.8	254,028	32.1
March	248,615	59.8	502,643	41.6
April	241,054	59.9	743,697	46.2
May	237,759	57.2	981,456	48.4
June	248,378	61.7	1,229,834	50.6

*Included in total steel.

Coal—*Production of Bituminous and Lignite*

Reports by United States Bureau of Mines—(Tons mined)

	Montana	Wyoming	Colorado	New Mexico	Utah	Washington	Other	Total
March	355,000	856,000	680,000	132,000	638,000	118,000	2,000	2,781,000
April	176,000	25,000	20,000	5,000	14,000	10,000	1,000	251,000
May	233,000	362,000	243,000	65,000	248,000	22,000	1,000	1,174,000
June	281,000	429,000	442,000	118,000	451,000	80,000	1,000	1,802,000

Flour Production—*In Western Mills*

According to figures furnished by the Bureau of the Census.

(bushels reported)

	WASHINGTON		OREGON		CALIFORNIA		COLORADO		MONTANA		UTAH		IDAHO	
	Mills Report'g	Wheat Ground	Mills Report'g	Wheat Ground	Mills Report'g	Wheat Ground	Mills Report'g	Wheat Ground	Mills Report'g	Wheat Ground	Mills Report'g	Wheat Ground	Mills Report'g	Wheat Ground
March*	..	.....	..	.....	..	.....	..	.....	..	.....	..	.....	..	.....
April	16	2,256,000	15	1,182,000	9	679,000	18	786,000	15	753,000	22	465,000	14	434,000
May	17	2,267,000	15	1,165,000	9	572,000	18	789,000	15	765,000	22	424,000	14	384,000

*Figures currently unavailable.

Cement—*In Barrels*

Cement production throughout the West continued to rise during June in accordance with seasonal trends, according to figures supplied by the U. S. Bureau of Mines.

PRODUCTION
(In thousands of barrels)

	—California—		Oregon-Wash.		Colo.-Wyom. Moni. Utah - Idaho	
	1944	1945	1944	1945	1944	1945
June	1,180	1,439	511	303	249	305
July	1,312	1,538	454	278	237	317
Aug.	1,129	1,491	446	245	291	331
Sept.	1,360	1,364	378	305	280	296
Oct.	1,439	1,431	319	346	299	304
Nov.	1,182	1,211	298	299	280	333
Dec.	1,193	1,174	328	286	249	320
	1945	**1946**	**1945**	**1946**	**1945**	**1946**
Jan.	1,258	1,159	269	234	173	233
Feb.	1,191	1,355	243	250	95	109
Mar.	1,226	1,629	250	298	122	245
April	1,257	1,670	268	432	130	356
May	1,396	1,745	238	397	273	413
June	1,439	1,684	303	437	305	386

Copper—*Mined*

Small gains made in Western copper production during June resulted chiefly from increased output in Nevada and shipments of concentrate from California's Hornet mine. Strike conditions persisted otherwise, according to the U. S. Bureau of Mines.

(Tons produced)

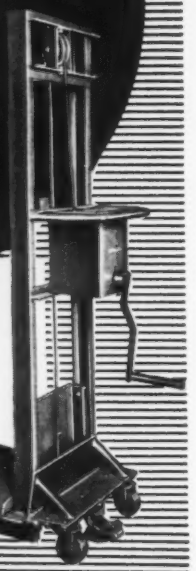
	Arizona	Montana	Utah	Total Western including other states
July, 1945	22,055	6,651	19,826	57,176
August	22,100	6,340	18,478	57,088
September	21,250	4,061	19,177	54,233
October	22,000	7,100	17,900	57,103
November	23,000	6,600	16,000	55,539
December	23,000	5,455	15,300	53,964
Jan. 1946	25,300	6,050	11,000	52,046
February	24,300	5,400	500	38,822
March	22,300	5,300	650	38,075
April	21,800	1,700	500	33,836
May	16,400	4,850	500	30,749
June	15,850	5,000	500	30,994

THE TREND

Continued rises in production of metal products accompanied by additional declines in unemployment figures indicate an increasing tempo of industrial activity in the West. Declines in production of electric energy are purely seasonal, and July declines in Western freight shipments probably serve merely to reflect the fall in production brought about by the strikes of last spring. Warehousing statements indicate that plenty of stocks of some kinds of commodities are on hand even though the seller's market persists. Quite possibly, however, they may reflect the declines in rail freight traffic within another month.

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THE WEST ON ITS WAY

ARIZONA

A MILLION NOT ENOUGH—The million dollar project of the Central Arizona Light & Power Company grew into one of $2,750,000 and involving an increase of generating facilities in its steam electric plant west of the city when it was determined the original project could not supply the demand for electricity in Phoenix. The addition of a new generating unit and other equipment capable of producing 33,000 kilowatts will boost the plant's capacity to 77,000 kw. Under the program the present steam plant building will be enlarged almost 50 per cent to accommodate the new unit.

LOOKING AHEAD TO MAJOR MINING PROJECT—Magma Copper Company stockholders will vote at a meeting Aug. 29 to approve increasing capital shares. The proceeds from the new capital stock issue will be used for development of the company's newly-acquired subsidiary, the San Manual Copper Corp. in Arizona. The property is said to have an ore body estimated at 100,000,000 tons, and is the largest potential copper development in Arizona since Phelps Dodge Corp. opened its Morenci mine. A full-scale drilling operation, with a force of 140 men at work, is testing the property. Grant Rubly, engineer, is in charge of the development.

REYNOLDS COMPANY TO BEGIN OPERATIONS—The Reynolds Metals Company which has taken over the aluminum extrusion plant operated during the war by the Aluminum Company of America, will begin operations shortly.

MORE COPPER—Magma Copper Company will erect a $96,000 concentrator building at Superior. Capacity will be 1,000 tons.

DISTILLERY PLANT—Schenley Distilleries has received authorization for construction of a $400,000 plant at Lateral 15½ and Southern Pacific railroad tracks, Phoenix.

CALIFORNIA

LICENSE PLATE MANUFACTURING—At a price of $453,658.89, Norris Stamping and Manufacturing Company, Los Angeles, has been awarded a contract to supply in excess of 3,300,000 pairs of license plates for California automobiles in 1947.

ALUMINUM FURNITURE—Timm Industries, Inc., Los Angeles, subsidiary of Timm Aircraft Corp., is manufacturing 16,550 units of aluminum furniture for the Doehler Furniture Mfg. Co., New York. Units are desk chair, armchair, davenport and table.

WORK CLOTHING CENTER—The H. D. Lee Company, world's largest manufacturers of union-made work clothing, have bought property in San Jose for construction of a $250,000 plant.

CLOTHING FACTORY FOR BANNING—A sportswear factory of the Mid West Manufacturing Co. is being established at Banning. The concern will employ 150 San Gorgonia Pass residents when it opens, and plans to double the number in coming months. Equipment costing more than $100,000 will be installed.

COTTON AND BURLAP BAGS—Southern California Bag Co., at 49th and Corona Sts., Los Angeles, is constructing a 50,000 sq. ft. building. With other improvements $250,000 will be expended. New machinery is to be installed for manufacture and processing of new and used cotton and burlap bags.

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REBUILDING GENERATORS—For rebuilding generators and other automotive equipment a building at 3658 Eighth Ave., Los Angeles, with 24,000 sq. ft. is being constructed at cost of $75,000 for Pacific Brake Co., 1662 W. Adams Blvd.

"NOBUR" TOOL PRODUCTION—The Fried Camera Co., 910 N. Orange Drive, Los Angeles, announces it is to construct a building at 1000 block North La Brea for manufacture of "Nobur" tools. Cost estimated at $55,000.

TRUCK TRAILERS—Utility Trailer Mfg. Co., 3900 Medford St., Los Angeles, is adding a 22,000 sq. ft. building for truck trailer manufacture.

FURNITURE—Maywood Chair and Cabinet Co., 3541 E. Slauson Ave., Los Angeles, is erecting an 18,000 sq. ft. building at 6115 Maywood Ave., Huntington Park. It plans to move there for manufacturing.

SHOWER BATH FIXTURES—California Fiat Receptor Co., affiliate of Fiat Metal Mfg. Co., Chicago, now has the "go ahead" on construction of a 15,000 sq. ft. building at 3425 Fowler St., Los Angeles, to which it will move from Pasadena. Company makes shower cabinets, toilet partitions, etc.

CLOTHING PLANT FOR SAN FRANCISCO—Nat Rothman, pres. of Rough-Rider, 742 Market St., has started construction of a $225,000 clothing plant in South San Francisco at Hillside and Linden Avenues, to be completed by the end of the year. It will manufacture sports wear and slacks and will employ 300 people by next spring. The company began in San Francisco 26 years ago and has had a factory in Napa, California, for the past 10 years.

HEATERS FOR WALLS, BASEMENTS—Deluxe Furnace & Wall Heater Co., 4812 S. Western Ave., Los Angeles, has bought land in Inglewood for construction of a first unit of a plant where it will make floor, wall, dual heaters and basement units.

FROM FONTANA — Mineral Wool Insulations Co., Fontana, announces $100,000 building program on property leased from Kaiser Co., Inc., and will utilize by-products from Kaiser's Fontana plant to manufacture insulation materials. Plant capacity is to be 50,000 tons a year.

DOW BUILDING COMPLETE—The new personnel office of Dow Chemical Company at Pittsburg, which covers an area of 2925 sq. ft., is now complete and ready for occupancy. It is designed with modern lines and finished in brick.

GRAHAM INDUSTRIES BEGIN OPERATIONS—Operations of the new Graham Industries, Inc., comprising five new industries have begun at the Moore Dry Dock Company's west yard in Oakland. First of the wartime shipyards to be converted into varied peacetime industrial use, the property is being leased from the WAA. More than 3500 skilled workers will be employed. The five companies involved are: Graham Development Co., manufacturing semi-prefabricated homes; Graham-Doane Truck Co., making low-bed trucks; Graham Commercial Refrigeration Co., producing commercial refrigeration; Graham Drydock Co. for ship repair, and Graham Durable Furniture Co., makers of steel household furniture.

GLASS COMPANY TO BUILD AT SAN JOSE—The Maywood Glass Company has purchased eight and one-third acres of the Phelan Tract Site, San Jose, and plans construction of a million dollar glass factory which will provide employment for 500 skilled workmen. The company will be located between South Seventh and Tenth Streets on the south side of the Western Pacific Tracks. The concern is a division of Anchor Hocking Co.

JET ENGINE EQUIPMENT—Ryan Aeronautical Co., San Diego, has recently contracted to provide jet engine equipment for Menasco Mfg. Co., Los Angeles. From AiResearch Mfg. Co., also of Los Angeles, Ryan has received orders for special aircraft conditioning units.

NEW INDUSTRIES IN L. A.—Among 15 new industries locating in Los Angeles during June, and representing a total investment of $435,000, are: Aaron Ferer & Sons, 2300 East 11th St., constructing the first unit of a foundry for brass and aluminum ingot production. . . . Butler Engineering & Mfg. Co., 4906 Alcoa Ave., constructing a building there for manufacture of automatic truck loaders, packaged ice machines, magnetic testing machines and equipment. . . . Keith Camera Co., 4572 Santa Monica Blvd., has begun manufacture of cameras. . . . Garbo Wheel Co., 2416 E. 16th St., a division of Garlinghouse Bros., is turning out small wheels for pneumatic tires for scooters, wheelbarrows, etc. . . . Love Sheet Metal Service, 3301 E. 22nd St., utilizing 42,000 sq. ft. there for production of kitchen and restaurant equipment, store and office fixtures.

CORK PRODUCTS—Mundet Cork Corp., 1850 N. Main St., Los Angeles, is constructing a plant building, 30,000 sq. ft., at 6116 Walker Ave., Bell, to be in full production by September.



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THE WEST ON ITS WAY

SHEET METAL—Steel Products Mfg. Co., 3700 Whittier Blvd., Los Angeles, has started a building at 12530 Yukon St., Hawthorne District, for making sheet metal products for the construction industry.

AMES CONCERN TO MAKE G.E. CABINETS—General Electric kitchen cabinets for the western market will be made by the W. R. Ames Company. The concern is now preparing engineering drawings and dies for production which will serve seven of the Western states. Volume production will begin in September, and company expects to substantially increase its payroll.

FROM TEAKWOOD TO HOG BRISTLES—The Los Angeles Brush Mfg. Corp. has moved into its modern brush plant at 2211 East 37th Street, Los Angeles. Its efficient production-line technique will double the firm's production capacity. Company uses wood and bristle brushing materials gathered from all over the world, from genuine teakwood to Siberian hog bristle. Frank A. Tuchscherer is company president.

STERLING MOTORS EXPANDING—Pioneer Los Angeles electric motor manufacturerer, Sterling Electric Motors, Inc., is spending some $600,000 in modernization and new buildings. To their present three-acre plant will be added a 22,000 sq. ft. unit. Manufacturing processes throughout the entire plant will be re-equipped with the latest modern high-speed production machinery, conveyor belts, manifold casting machines, bake ovens, etc. Carl E. Johnson is president of the concern.

NEW FURNITURE ASSEMBLY PLANT — International Furniture Co., of Chicago, is constructing a steel frame and reinforced brick plant, 60x480 ft. at Yorba Linda for furniture assembly.

PAPER MILL BUILDING—U. S. Gypsum Company has awarded the contract for its $2,500,000 one-story paper mill building, 369x440 ft., at 8430 Quartz Ave., South Gate. Construction will begin immediately.

STANDARD GETS GREEN LIGHT—Plans for construction of a $2,250,000 crude distillating unit at its El Segundo refinery are revealed by Standard of California, following Federal approval of the project. It will have a capacity of some 30,000 barrels daily.

NEW CANNERY—Puccinelli Packing Co., Third St., Turlock, has started work on its one-story reinforced concrete and structural steel cannery building to cost $200,000.

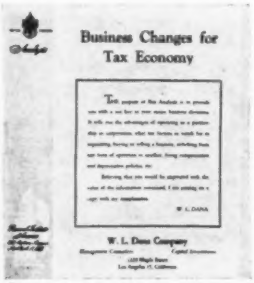
FACTORY BRANCH—A new building housing office, display rooms and warehouse, with a spur track and loading ramp available, has been established by LaPlant-Choate Mfg. Co., in Oakland, 1022 - 77th Avenue, to replace its former facilities at San Leandro.

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SHIP REFITTING—Matson Navigation Co. is to spend $18,000,000 on reconversion and modernization of its passenger vessels as fast as they are turned back by the Government. Work has begun on one ship.

COLORADO

AIRLINE SERVICING—Aircraft Mechanics, Inc., of Colorado Springs, have been selected as the prime manufacturing source for Douglas-designed servicing equipment for airlines. This equipment heretofore has been fabricated in small quantities at the company's Santa Monica parent plant or sub-contracted to small-job shops, the latter a not too satisfactory arrangement.

FRUEHAUF OPENS SERVICE BRANCH AT DENVER—The CPA has authorized construction by the Fruehauf Trailer Company of a new sales and service branch building at Denver. The structure to be located on a 11-acre tract will contain more than 33,000 sq. ft. of floor space. It will be large enough to accommodate servicing of 24 trailers simultaneously, including a water-wallpaint spray booth, steam cleaning equipment, welding fixtures for stainless steel van construction and repair, and outside steam cleaning rack for tank trailers. E. E. Wright is manager of the Denver branch. M. W. "Bud" Davis is in charge of service. Building will be completed late this year.

IDAHO

IDAHO MILLING PLANT BEGINS OPERATIONS—The Sidney Mining Company's new concentrator near Kellogg is now in operation. The plant which cost $275,000 provides for milling daily of from 250 to 300 tons, with a further step-up in capacity if desired. The ore crushing division as at present installed has a rated capacity of 1,200 tons daily, with ample electric power immediately available. Plant was designed by C. Y. Garber, mill supt. of Bunker Hill & Sullivan.

A WHOLE NEW TOWN PLANNED—Mineral Exploration & Research, Inc., a mining concern which is seeking gold and silver on the south fork of the Clearwater River near Grangeville, together with a group of Yakima business men, plans to build a whole new town.

NEVADA

SUMMIT KING'S CYANIDE PLANT TO OPERATE—Plans are being made to reopen the Summit King mine and mill 25 miles east of Fallon near highway 50, according to P. G. Dobson, mgr. Repair work includes replacing of a pipe line from the water supply source at the bottom of the hill near the old Sand Springs station. Some 40 men will be required to operate the mine and mill.

GYPSUM FROM THE DESERT—With formation of a $1,000,000 corporation, the Alpha Gypsum Company, Las Vegas is shortly to get a building materials industry that will start using nearby gypsum deposits within 60 days. Incorporators include: Calvin Cory, Las Vegas; George Hauptman and M. A. Houghen, Los Angeles.

LEAD-SILVER-ZINC-GOLD—Eureka Corp., Ltd., subsidiary of the Canadian firm, Ventures Ltd., has reached the 1,000 foot mark in its new Fad shaft, for one-third of its projected depth. Final outlay of the company in its Nevada operations is expected to total several millions.

TO REBUILD SCHEELITE PLANT—The two mills and roasting plant of the Nevada Scheelite Mining Company in Churchill County, six miles from Fallon, which were recently destroyed by fire, will be rebuilt if water can be raised to the higher elevation of the mine. Fire loss was estimated at $100,000.

NEW MEXICO

CARBON PLANT TO BE UTILIZED—The partially completed plant at South Eunice, intended for production of carbon black for the tire industry, has been sold to Charles E. Johnson & Co. and Columbian Carbon Co., for $750,000, by the War Assets Administration. Purchasers intend to complete the plant and expect to employ about 50 persons.

IN THE SANDS OF NEW MEXICO—The U. S. Engineers office at Albuquerque has awarded the contract for its missile test buildings at White Sands proving grounds in Otero County, at a cost of $967,164. Buildings will be of metal and concrete construction.

FOUR UTILITY COMPANIES MERGE—The New Mexico Power Co., the Las Vegas Light & Power Co., the Deming Ice & Electric Co., and the Albuquerque Gas & Electric Co. have merged and will be known as the Public Service Co. of New Mexico. Approval was granted by the state corporation commission.

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THE WEST ON ITS WAY

MONTANA

LUMBER MILL CHANGES HANDS—A. J. Frolich and G. Peressini have purchased the former Great Falls Lumber Company mill, Ninth Avenue, and are now operating under the name of National Building Supply Co. The partners plan extensive expansion of the operation of the mill as soon as they can obtain equipment.

OREGON

CALIFORNIA BAG & METAL COMPANY EXPANDS—A $63,000 warehouse and office at 2425 N.W. Nicolai Street, Portland, will be built for the California Bag & Metal Company.

ACETYLENE PLANT—Located at Portland, where it was operated during the war by Air Reduction Sales Co., an acetylene plant has been bought by its wartime operator from WAA for $130,300.

SAWMILL—Holdings of the Independence Sawmill Co., Independence, have been sold for reported $500,000 to Fred H. Swift and Lawrence Sapero of Englewood, N. J. A mill at Arlie and 50,000,000 ft. of timber are included.

HOUSE PRODUCTION PLANT — After purchasing the Columbia Steel Casting plant, 55th and Halsey Sts., Portland, Prefabricated Engineering Co. announced it will spend $100,000 to convert it into a fabrication and assembly factory that will turn out 20 to 25 houses daily. Production will be under way by 1947.

ANOTHER SAWMILL—Pope & Talbot, lumber manufacturers, announce construction of a new sawmill to turn out 200,000 to 300,000 feet a day at Oakridge.

TO MODERNIZE ITS NEWSPAPER PLANT—The Journal Publishing Co. has purchased the Public Market Building in Portland which it will transform into a modern newspaper plant. More than $2,000,000 is involved in the expansion, including an expenditure of a million for new equipment.

MORE WAXED PAPER—The Western Waxed Paper Co. has started a $500,000 expansion of its North Portland plant. The first unit in this expansion is a 38,000 sq. ft. one-story reinforced concrete building.

FOR STEEL AND TUBULAR PRODUCTS

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FOR SERVICE

DRAKE STEEL

DRAKE STEEL SUPPLY CO.
STEEL WAREHOUSE DISTRIBUTORS
in Los Angeles – Fresno, California; Tucson, Arizona

NEW INDUSTRIAL CONCERNS IN PORTLAND AND WHAT THEY MAKE INCLUDE: Claussen Instrument Co., 114 N.W. 21st, producing surgical instruments; Columbia Forge Co., 740 N. Page Street, steel forgings for logging industry; Columbia Tackle Co., 1904 N.E. 101st, fishing rods, etc.; East Portland Sheet Metal Works, 1033 N.E. 106th, sheet metal products; Gardner Concrete Block, 2700 N.E. 82nd Street, concrete blocks; Hamblet Wire Products, 513 S.W. Front St., wire baskets, shelves, etc.; Hypo Mfg. Co., 216 S.E. 63rd, lubricating mechanism; International Machinery Sales & Eng. Co., 1225 S.W. 16th, precision machinery; Johnston, Frank Golf Club Co., 5310 N.E. Sandy, duralumin putters; Kwickamp Mfg. Co., 7400 S.E. Macadam, collapsible camping trailers; McMasters Tackle Co., Weatherly Bldg., fishing leaders; Olson Wall Dinette, 3572 S.E. Division St., wood folding wall dinettes; Sabot Mfg. Co., 41 S.E. Morrison, wood and leather shoes; United Mirror Works, 525 N.E. Columbia Blvd., mirrors, and Stereocraft Engineering Co., 810 S.W. 21st St., precision devices including steroscopic instruments.

PORTLAND EXPANSIONS INCLUDE—The 30'x200' one-story concrete addition costing $150,000 planned by United Air Lines, at Portland's Columbia airport; and the purchase of two acres of property on N.W. Front Street for the new plant of the Walter N. Boysen Paint Co.

FERTILIZER CONCERN COMING TO PORTLAND—As soon as CPA approvals are granted Wilbur-Ellis Company plans erection of a building 100'x200' for the production of balanced fertilizers and poultry feeds on property recently purchased on Suttle Road in North Portland.

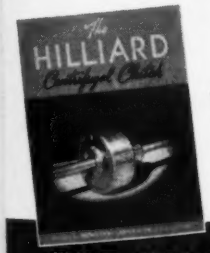
DDT PLANT TO BE BUILT AT PORTLAND—The first plant for producing technical DDT in the far West will be built at Portland by Pennsylvania Salt Manufacturing Co. of Washington. It will be installed in conjunction with the new $1,000,000 caustic soda and chlorine plant now under construction on the Willamette River. It will be in production within 12 months, and will supply the needs of the Western U. S. and the Pacific export market.

UTAH

NEW BUS DEPOT IN SALT LAKE—Burlington Transportation Co. has purchased property in Salt Lake City near 60 East Second South Street, for the site of a new bus depot. It will include a modern shopping center. Nine bus lines will use the new terminal.



Hilliard Centrifugal Clutches and Couplings have a minimum number of parts and a wide range of adjustment. They are ideal for high speed dual drives, automatic engagement on internal combustion engine drives, starting high inertia drives, and many other purposes.



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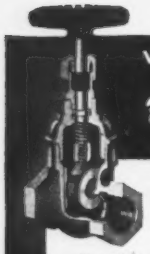
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THE WEST ON ITS WAY

WASHINGTON

WOOD-FLOUR SITE SOUGHT—Officials of the Fibrinite Co., Inc., are seeking a two-acre site on railroad tracks in Grays Harbor, for construction of a wood flour mill — the first unit of its expansion program. Mill will utilize wood wastes and will handle anything from slashings to large logs, O. B. Keplinger, manager, reports. The mill will be of the "hammer" type. Wood flour is used as base for plastic moulding powders, filler and in the manufacture of linoleum and some hard board products.

RETURNS TO BUSINESS—Mark H. Rousell is back on the job as owner of the Airliner Plastics Engineering Company, Seattle, and will produce several new items for home construction and equipment. Ill health forced his retirement some months ago.

WOODLAWN PLYWOOD COMPANY INCORPORATED—A new producer of cottonwood, alder and maple plywood panels in the plant of the former Woodlawn Shingle Co., at Aberdeen, the concern will be capitalized at $100,000. Fred Helland is head of the new outfit. A co-operative plan of organization will be followed.

FISH CANNERY OPENS—A new fish cannery on Bellingham Bay is the P. J. Burke Packing Co., Inc., which is associated with the Valley Frozen Foods Co. of Lynden and Pateros. Salmon will be the principal fish handled but company hopes to get tuna to pack as well. A one-line operation has begun, but capacity may be increased in another year.

COMPANY BUYS WAR PLANT—Hooker Electrochemical Co. has purchased from WAA for $25,000 the Tacoma plant it has been operating. During the war the plant produced anhydrous aluminum chloride. NEW SPOKANE FACTORY—School busses will be assembled and truck bodies manufactured for distribution in Washington, Montana and Idaho, in the old car barns of the Spokane United Railways, by Quitslund Body Company. P. G. Quitslund, Seattle, is president.

COLUMBIA BASIN
GRAND COULEE DAM
ALUMINUM

GUIDEPOST to NEW INDUSTRIAL OPPORTUNITY

SPOKANE OFFERS FORWARD-LOOKING MANUFACTURERS

GROWING MARKETS . . . Doorstep to Columbia Basin (a million new irrigated acres for tomorrow), western, and overseas Pacific markets.

LOW-COST POWER . . . Abundant, dependable hydroelectric power at lowest rates.

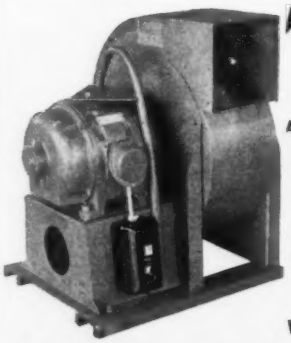
CHOICE INDUSTRIAL SITES—SKILLED LABOR SUPPLY—LOW TAXES—No State Income Tax.

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KAISER'S TRENTWOOD PLANT IN LIMITED PRODUCTION—Kaiser Spokane aluminum mill has begun limited production. Company started with 300 men but expects employment of 2,800 workers

PLANS CALL FOR $20 MILLION MERCHANDISE MART—Seattle Chamber of Commerce has disclosed plans for construction of a $20,000,000 merchandise mart. A block-square site for the building is under preparation. It will be patterned after the marts of San Francisco and Chicago. Plans call for a consular building, a large auditorium for marketing shows, quarters for light textile manufacturing, off-street parking, and storage facilities for Eastern manufacturing concerns.

SCHORN PAINT COMPANY EXPANDS—Some $200,000 will be spent in an addition and alterations to the Schorn Paint Mfg. Co., at 1128 W. Spokane St., Seattle. The contract has already been awarded.

NEW BUILDING FOR MACHINE WORKS CONCERN—Construction of the North End Machine Works' new assembly building at 3709 University Way, Seattle, is now underway. The addition will give the plant a 140-ft. frontage on University Way, with a floor space of 14,280 sq. ft. Company is manufacturing logging and sawmill machinery, hoists and winches.

NORTHERN PACIFIC RAILWAY COMPANY BUILDING — The contract for construction of the $200,000 office and warehouse on Puyallup Ave., Tacoma, for the Northern Pacific Railway Co. has been awarded and work is underway. It will be of concrete and brick construction, and a central steam boiler will provide heat for both sections.

PAPER SO THE PRESS CAN BE FREE—Frank S. Baker, publisher of Tacoma News Tribune, is pres. of West Tacoma Newsprint Co.—the outfit which is going to produce newsprint for the San Francisco Chronicle, Oakland Tribune, San Diego Union-Tribune, Sacramento Bee, Fresno Bee, Modesto Bee, Los Angeles Times, all of California; Eugene Register-Guard, Eugene, Ore.; and Aberdeen World, Yakima Herald Republic, Tacoma News-Tribune, Everett Herald, Bellingham World and Daily Olympian, all of Washington. A new mill is being reconstructed to produce 50 tons of newsprint daily at the start, with expansion later to 80 tons daily.

BABY FOOD TO BE FROZEN—Associated Frozen Foods, Inc., of Washington, plans packing frozen strained baby foods this year.

NATIONAL INSUL-FLUF SEEKS WESTERN PLANT — The National Insul-Fluf, Inc., manufacturers of insulating material from wood pulp, is seeking a factory location in Spokane to serve the Pacific Northwest.



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We turned out tens of thousands of each one pictured here. Each one was important to the extent it was required to work with precision exactness. Failure meant disaster. Each one was individually machined, milled, bored, threaded and polished to hairline precision.

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"BANDAGE" YOUR ROOF-LEAKS with PABCO HYDROSEAL and PABCOWEB!



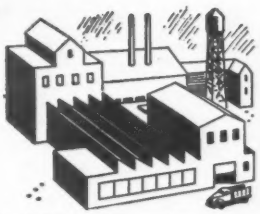
The finest "first aid" of all for roof-leaks! To make tough, lasting roof-repairs, you simply spread this durable, adhesive plastic over and around the leak or break—and then "bond" it with a strip of PABCOWEB (which comes in different widths like bandages). No other leak-fixing method like it!

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Makers of Pabco Paint, Roofing, Building Materials; Pabco Linoleums, Pabco Mastipave Heavy Duty Flooring



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PLATE GRIPS – Safe, positive grips in a variety of sizes for handling vertical plates or upending horizontal plates and assemblies.

PIPE TONGS – Heavy duty tongs for easy handling of pipe, billets, bars, timber. Locks in open position. Picks up from floor surface.

PLATE HOOKS – Handle one or more horizontal plates. Used in sets of 2 or 4. Two styles.

RAIL TONGS – Handles large or small rail. Two sizes with 3" or 4½" jaw.

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Electric Cranes ● Hand Cranes ● Jib Cranes ● Sheaves ● Sheave Blocks
Plate Grips ● Plate Hooks ● Crane Trolley Hoists ● Crane Wheels ● Crane End Truck Units ● Jib Crane Fittings ● Automatic Mechanical Load Brake Crane Hook Blocks



● One man with an ElectroLift can lift surprisingly heavy loads from your work floor, loading platform or delivery truck. Its speed, safety and certainty help lift burdens of time, money and manpower from your management's shoulders too.

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THE WEST ON ITS WAY

CHROME PLATING ALUMINUM FACTORY—Camp Manufacturing & Sales Co. has begun operations in Enumclaw. The industry specializes in a method of chrome plating aluminum, making all kinds of household fixtures. Company also operates a plant in Tacoma.

NORTHWEST AIRLINES TO BUILD PLANT AT BOW LAKE—Northwest Airlines plans immediate construction of hangars and other buildings at the Seattle-Tacoma Airport at Bow Lake, at a cost of $1,000,000. Construction will take nearly a year. The company will move its regional office from Boeing Field to Bow Lake.

AIRCRAFT ASSEMBLY PLANT FOR BOEING FIELD—An aircraft assembly plant will be operated at Boeing Field by the Northern Aircraft Co., distributors of Commonwealth Aircraft for the Pacific Northwest. Production of 30 to 40 aircraft a week is planned for the plant which will produce 18 a week for the few months it will take to complete facilities. Offices of the firm are at 1331 Third Ave., Seattle. Arthur Johnstone is president.

BRADE COMPANY BUYS WALLA WALLA FIRM—Purchase of the "M-J-M" plant, formerly the Walla Walla Iron Works, has been completed by the Braden Tractor & Equipment Co.

FROZEN FOOD PLANT BEGUN—Construction work on the cold storage and freezing plant of the North Pacific Frozen Products Co., at the end of Loggie fill, Bellingham, has been started.

PLYWOOD PLANT FOR HOQUIAM—Woodlawn Plywood Co., incorporated at $100,000, has taken over the former Woodlawn Shingle Co., on East Hoquiam River, and plans to be in operation by fall, specializing in cottonwood, maple and alder panels. Fred Helland heads the new company.

RENTON HEAVY BOMBER PLANT FOR SALE—The heavy bomber plane plant at Renton is being offered for sale or lease by the War Assets Admr. The plant cost the government $21,291,505 to design, construct and equip.

"Serving the Needs of Western Industry"

J. T. Cooper Steel Co.

STRIP STEEL

in gauges from .001 to .187 and widths from 3/16" to 24"

SHEETS UP TO 60"

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Does your Office and Plant have adequate drinking water facilities?

Investigate now! You can depend upon HAWS Sanitary Drinking Fountains, Faucets and Electric Water Coolers to serve efficiently and with complete satisfaction. Specify and install HAWS now! Write today for literature.



Model No. 800

HAWS Drinking Faucet Co.

1808 Harmon Street *Since 1909* Berkeley 3, Calif.

Agents and Sales Representatives in All Principal Cities

NEW LUMBER COMPANY—Columbia Lumber Co., Spokane, has purchased the Hedlund Lumber mill near Kettle Falls, and is now in operation. Mill has a 60,000 board feet capacity. James S. Ramage, Charles D. Weiss, A. M. Mikalson, Norman L. Mikalson and A. J. Mikalson, all of Spokane, have incorporated the firm for $100,000. "A. J." is pres. and gen. mgr. and Mr. Weiss, sec.-treas.

COLD STORAGE PLANT BEGUN—Construction is now under way for a new 125-car capacity cold storage plant for the Omak Fruit Growers, Inc., Omak. New building is to be a three-floor structure adjacent to present plant and will be 113 x 127 feet, with poured concrete walls.

NEW QUICK-FREEZING CONCERN—Twin City Foods, Inc., Stanwood, will occupy the former Stanwood Canning Company property, and will handle 1946 packs in peas, spinach, corn, strawberries, blackberries, raspberries, etc. R. W. Day, well known in quick-freezing, heads concern.

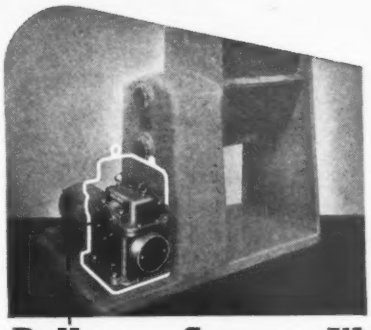
LONG LAKE CHANGES BROTHERS—James M. Brown, president of Long Lake Lumber Company of Spokane has sold his interest in the firm to his brother, Dave E. Brown, who becomes president. Robert J. Wert will be secretary-treasurer. Mr. Brown has organized the Northwest Timber Company which will hold timber lands and mill properties.

NEW INDUSTRY IN SEATTLE—Longmire-Ward Glass Studio is using Pyrex glass as a medium to produce in quantity miniature replicas of birds, animals and colorful objects, in its factory at 4121 Airport Way, Seattle. Company makes solid glass figurines and specializes in a combination of weaving and spinning. Fourteen artist burners make the figures. Patricia Longmire Ward is designer and creator, and James Ward watches production.

WYOMING

BENTONITE PLANT—Representatives of the Douglas Sulphur Co., Houston, Texas, are reportedly concluding arrangements for construction of a plant near Greybull. Officials of other firms interested in Bentonite are also interested in developing the large deposits of the mineral in the area at the same time.

NEW REFINERY—Design work for new refinery equipment at the Casper refinery plant of the Standard Oil Co. of Indiana is in progress. New equipment will include a catalytic cracking unit, a vapor recovery unit and additional units of other types.



As the white outline indicates, a standard unit of nearly twice the frame size would be required to do the work of Speedaire.

Dollars...Space...Weight... saved with SPEEDAIRE

ON this Oscillating Granulator, product of a well-known Philadelphia machinery builder, Speedaire saves 3 ways:

1. 16% is saved on the cost of each reducer, as compared to conventional units.
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Speedaire is Cleveland's new fan-cooled speed reducer. Because it is fan-cooled, it does more work—delivers up to *double the horsepower* of standard worm units of equal frame size, at usual motor speeds. Speedaire can be installed economically on many jobs where other types were used heretofore—giving you the advantages of a compact right-angle drive. Speedaire gives the same long, trouble-free service characteristic of all Clevelands.

Catalog 300 describes Speedaire—enables you to figure quickly the proper sizes for your equipment. Send for a copy.

CLEVELAND Worm Gear Speed Reducers

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FABRICATED Hollow Drill steel, gads, narrow and wide chisels, general construction hand tools.

Steel Conversion tools are specialized tools, scientifically heat treated—insuring FASTER cutting—LONGER life.

Now fully stocked, your local distributor can supply you with SC guaranteed tools . . . or write for nearest warehouse.

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WESTERN TRADE WINDS

NEWS ABOUT THOSE WHO DISTRIBUTE AND SELL INDUSTRIAL EQUIPMENT AND MATERIALS

Acme Supply Company, Inc., Los Angeles, has re-entered the civilian hard goods market. Stock includes 25,000 tons of bolts, nuts, washers, rivets and screws, all hard-to-get items. More than 50,000 types and sizes are involved, made in all of the commonly used metals, steel, brass, aluminum, monel and stainless steel. **Edward Kramer,** sales manager of Acme, is supervising distribution from the main office at 706 S. Valencia, Street, L. A.

C. W. Marwedel, 1235 Mission St., San Francisco, has been appointed authorized distributor for Carboloy Co., Inc., Detroit, Mich. New representative in Western Nevada and Northeastern California for Westinghouse Electric Supply Co. is **Charles A. Mackenzie** who is establishing his offices at Reno, Nevada.

Farnes & Martig, Inc., 417 N.E. Couch St., Portland 14, Ore., have been appointed sales and service representatives in the state of Oregon for Wheelco Instruments Co., Chicago, Ill.

Stanley E. Morris, director of sales for Spencer & Morris, Inc., has withdrawn from the concern and opened new offices and warehouse, Sept. 1, at 5584 Alhambra Ave., Los Angeles 32, Calif., where he is exclusive representative of the Service Caster & Truck Corp. The new concern, **Stanley E. Morris Co.,** specializes in floor handling equipment.

Luria Brothers & Co., Inc., Reading, Pa., has received appointment as scrap broker for Colorado Fuel and Iron Works at Denver. Offices to service the account have been opened at Pueblo.

Recent appointments of factory agents in the West by Allied Steel Products, Inc., Cleveland, Ohio, are: for Utah, Eastern Nevada and Southwestern Wyoming, **Glen L. Henson** of Salt Lake City; for Northern California and Western Nevada, **The Kerr Equipment Co.** of San Francisco; for Colorado, New Mexico and north and southeast Wyoming, **Harry J. Detwiler,** Denver, Colo.; for Montana, **Bob Dawson** of Auburn, Wash.; for Washington, **G. W. Roux,** Vancouver, B.C.; for Oregon and Idaho, **L. R. Edminster,** Portland, Ore.; for Southern California, Arizona and southeastern Nevada, **The Burklyn Company,** Los Angeles.

George C. Connor, who in 1943 established the West Coast sales office of the Sylvania Electric Products, Inc., has been appointed general sales manager of the Electronics Division of the firm.

District manager, Pacific Coast territory, **Carbone Corp.,** Boonton, N.J., is **E. C. Brehm,** former district manager in the company's Chicago office.

Electronic Research Associates, South San Francisco, is a new firm specializing in the development and research of electronic industrial control equipment employed in processes of timing, counting, heating and general manufacture. Dr. Michael R. Klein, who heads the organization, founded and directed the Signal Corps Radar School at the Presidio of San Francisco before going into the Air Corps in 1943 where he did research and organized the Airborne Radar Schools for the Second Air Force.



Michael R. Klein

H. R. Mack has been appointed Western truck tire manager, U. S. Tire Division, of the U. S. Rubber Co., 5675 Anaheim-Telegraph Road, Los Angeles. He will make his headquarters in the Los Angeles plant. The growing importance of the Coast as a tire production center and its increasing market, prompted the appointment. Mack came to Los Angeles a year ago as Pacific Coast U. S. Truck Tire Manager.

Harvey E. Schroeder, former district sales manager in Los Angeles for the Parker Appliance Company, has been named manager of the company's newly created Pacific Division. The new division is a combination of the company's Pacific Sales District with the Los Angeles Manufacturing Division from which **Paul Locklin** has resigned as manager.



J. B. Wilson

J. B. Wilson, recently named manager of the West Coast Division of the Cook Electric Co., is establishing temporary offices at 1630 Fairview Avenue, Burbank, Calif.

C. H. Pearson has been promoted from Pacific Coast manager of the hoist division of Yale & Towne to regional divisional manager for all products of the Philadelphia Division of the company. **T. A. Fletcher** has been promoted to southwest district manager of the hoist division, with offices at Los Angeles, while **D. B. Eshom** has been promoted to district manager for California and the Pacific Northwest. His office will be in San Francisco.

L. Sonneborn Sons, Inc., New York, has appointed **J. D. Tucker Corp.,** 316 Brannan St., San Francisco 7, Calif., as applicators of its products in this area. The company will install Sonneborn's line which includes floor treatments, paints and waterproofing specialties.

Charles A. Sault has been appointed to the sales staff, industrial division, R. M. Hollingshead Corp., Camden, New Jersey. His headquarters will be Seattle from which he will cover Washington and Oregon.

General Electric Company's new line of soldering irons for industrial use is now available through the **Victor Equipment Company,** 844-54 Folsom Street, San Francisco. Known as CALROD soldering irons, they are available in a wide choice of sizes.

Bernard L. Bray succeeds **Philip F. Shepherd** as sales manager of the Marine Equipment Division of Ellinwood Industries, Los Angeles. Bray has served on the sales and engineering staffs of various aircraft, marine and general hydraulic manufacturing concerns.

Joseph T. Ryerson and Son, Inc., with steel distributor warehouses in eleven cities, have been appointed distributor of Babcock & Wilcox Electric Resistance Welded Boiler Tubes.

Oil Well Supply Co., subsidiary of U. S. Steel Corp., has opened a branch division sales office at 544-A Russ Building, San Francisco. **Randall D. Stone, formerly manager at Bakersfield,** head the new office.

There is no substitute for . . . . **EXPERIENCE!**

INDUSTRIAL CONVEYORS • POWER TRANSMISSION EQUIPMENT

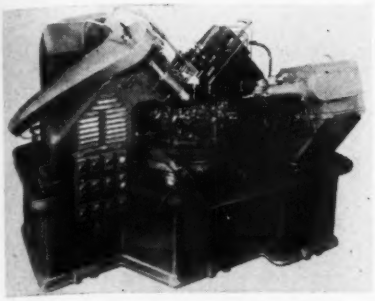
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J. D. CHRISTIAN ENGINEERS

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THE SHOWCASE

439



• Drilling, spot-facing, counterboring and tapping of vacuum holes in intake manifolds can be accomplished by this four-stage machine. Cycle of operation entirely automatic except for loading and unloading. Production rate: 120 manifolds an hour. Hydraulic Machinery, Incorporated, Glendale 2, California.

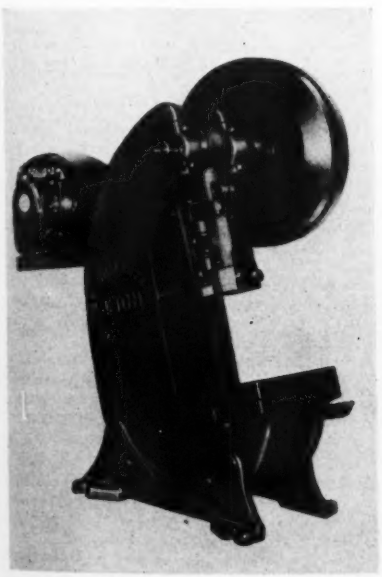
440

Multi-rate Spring Suspension — That's the name for the new underconstruction of Fruehauf's new single-axle trailer. The active length of the spring controls spring stiffness in correct ratio to the load carried. Company claims it will add to trailer life. increased carrying capacity, freer rolling, softer riding and more tire mileage. *Fruehauf Trailer Co., Los Angeles, Cal.*

441

Acid and Gas Don't Bother Wire—Thanks to a new alloy coating, Johnson Special Alloy Coated Wire can be used successfully in extreme acid or gas fumes and withstands temperatures up to 700 degrees F. Same physical characteristics as in uncoated wire are found with the alloy finish which acts as a lubricant. Wire solders readily, doesn't tarnish or rust. *Johnson Steel & Wire Co., Worcester, Mass.*

442



• This punch press weighing only 215 lbs. but approximating performances of far larger presses, so claimed, operates at a speed of 285 rpm and has a 1725 rpm electric motor. Can be used for stamping, marking, crimping, riveting and other high-speed operations. Benchmaster Mfg. Company, Los Angeles 6, California.

443

The Clamp With Many Uses—The Jiffy Cable Clamp is the clamp with many uses. It is so designed that it may be applied instantly on the end or in the middle of a cable. After using, it may be removed or changed to a new position without danger to cable or clamp. Economical, indestructible, easily installed and removed, makes possible savings in use of wire rope. Literature available. *Northwest Sales & Engineering Service Co., Tacoma 2, Wash.*

444

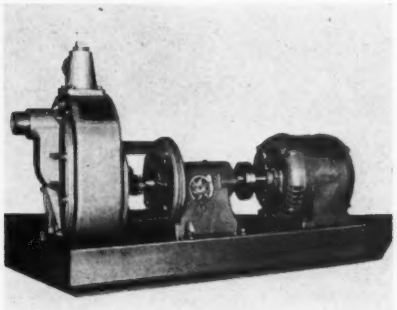


• This new-type industrial intercom is proof against dust and moisture and is equipped with a call-origination button which permits users to receive and reply to calls from 20-ft. distances without approaching the station. Executone, Inc., New York City, New York.

445

Adams Rite "Wedjit"—An all-purpose tie-down, suitable for use in aircraft, marine, transportation, automotive and building industries is announced. Sizes range in weight from .07 to .25 lbs., and base plates and studs can be modified to suit any fixture design. Easy to install and quick to remove, the Wedjit-fitted equipment is removed simply by a one-hand movement with a screw driver or thumb turn. A 40 degree turn of the flush screwhead or handle to left or right releases the stud which is ejected if the attached fixture weighs less than 10 lbs. Where fixtures weigh over 10 lbs., the jaws of each Wedjit remain open until the load has been removed. Adams Rite engineers available for consultation. *Adams Rite Hardware Manufacturing Company, Glendale, Calif.*

446



• The Marlow "Type E" industrial pump is a self-priming centrifugal pump either electric or belt driven. It is made in sizes to handle 50 to 4000 GPM. Primes automatically. Marlow Pumps, Ridgewood, New Jersey.

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SHOWCASE *(Cont'd from page 87)*

447



• Automatic control of air operated resistance welding machines is performed by Square D's combination unit, Class 8992. Dimensions arranged in accord with NEMA standards. Square D Co., Los Angeles 21, Calif.

448

New Light Weight Hand Truck—Especially designed for moving refrigerators but easily adapted to other uses, a new "Super-Toter" hand truck is now available. Of welded tubular construction, its upholstered frame protects appliance's finish. Floor protector welded under truck nose to prevent damage to all types flooring. Cushion rubber tires, 10"x2.50. Will handle 800 pound load. Literature available. *Aircraft Mechanics, Inc., Colorado Springs, Colo.*

449

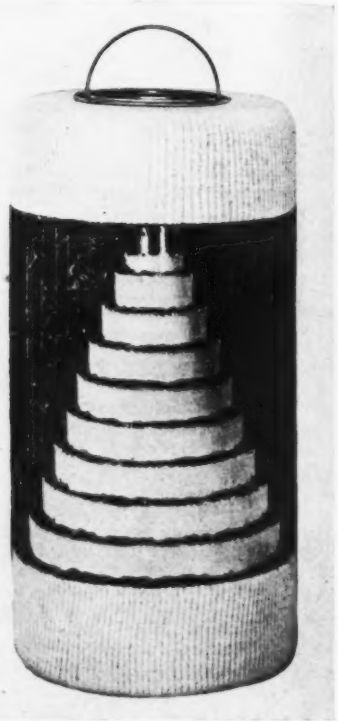


• The Mealpack Container, Model II, a stainless steel container, serves in-plant or in-office meals from a central commissary. Units combine double-seal insulation and patented construction, holding heat up to three hours. Mealpack Corp. of America, New York City.

450

New Lifter in Portable Elevator Field—A new Service Shop Lifter weighing but 260 pounds and having a capacity of 500 pounds is now available. Ideal as a die table, lifter and transporter of heavy fixtures, and for tiering boxes, it can be used for raising tote boxes, draining drums, positioning heavy work, installation of machine parts, and for loading and unloading motor trucks. Operates easily on Service ForgeWeld roller bearing casters. Overall height, six feet; lift of platform 4'8" from floor. *Service Caster & Truck Division, Albion, Mich.*

451



• Micro-filtration of oil by triple-trapping is done by this new filter which features laminated construction and outside-to-inside flow. Fluid velocity is said to be the same for all points in the filtering media. C. M. Fuller Company, Los Angeles 21, California.

452

The "Power Package"—That's the name of a new industrial product which consists of a 6 hp gasoline engine, with automatic clutch and transmission, designed to transmit the engine's power smoothly and at the most advantageous speed, depending on load. It will power light vehicles or fit almost any stationary use in which a small engine is required to transmit power gradually and at varying speeds to a driven machine. *Salsbury Motors, Inc., Pomona, Calif.*

453

Adjustable Splint Added to Safety Line—A new adjustable splint which easily and quickly conforms to the line of deformity of a fractured limb has been added to the safety equipment of the B. F. McDonald Company. It protects the victim of an industrial accident until he can receive treatment. *B. F. McDonald Co., Los Angeles 37, Calif.*

454

Spanner Wrench Sets — Adjustable wrench sets have been added to the JO Line tools. They come in three sizes which fit ¾" to 2", 1¾" to 4", and 3½" to 6" diameters. Made of forged steel, heat-treated and cadmium plated, a set consists of a handle, removable screw, a key arm and three pin arms in graduated sizes. *JO Manufacturing Co., South Gate, Calif.*

YOURS FOR THE ASKING

2018

Odorless Disinfectant — Kelite Ke-Cide is thorough in its germicidal and deodorizing action, incorporates detergent qualities as well, and has no odor of its own. Eliminates industrial odors, high in germ killing powers. It is a stable compound and loses little of its effect when exposed to air. *Kelite Products Inc, Los Angeles 1, Calif.*

2019

How to Use Perchloron—A 50-page book of instruction on the uses of Perchloron in swimming pool sanitation, water purification, sewage disposal and as bactericide in the food industry is available. Contains instructions on methods of preparation and application. *Pennsylvania Salt Mfg. Co., Philadelphia 7, Pa.*

2020

Foundry Equipment — Catalog No. 25A describes Model "AM" Sandcutter together with all pertinent specifications and dimensions, showing it in operation; while Bulletin 10A describes the core rod straightener and shear machine for foundry use. Illustrations as well as specifications and operating data included. *American Foundry Equipment Company, Mishawaka, Ind.*

2021

Do Your Products Open as Easily as a Banana?—That's the theme of the new Package Machinery bulletin, which stresses easy-opening devices. Pictured are some of its machinery at work wrapping gum and cigarets. *Package Machinery Company, Springfield 7, Mass.*

2022

What You Should Know About American Welded Tanks—That's the subject matter of a newly issued 4-page bulletin of American Pipe & Steel. It describes the American Horizontal and Vertical bulk storage tanks and their application to every type of installation. Complete specifications listed. *American Pipe & Steel Corp., Alhambra, Calif.*

2023

How to Quench, Temper and Austemper Steel—General rules for "Suiting the Heat Treatment to the Job" have been prepared by the Research and Technology Department, Carnegie-Illinois Steel Corp. Attractively presented in easy-to-read type, with color charts and numerous photographs, the booklet gives the answer to many a heat treating problem. *U. S. Steel Corp. Subsidiaries, Pittsburgh 30, Pa.*

2024

Directed to Those Who Need Solid Floors—are the Klemp Hexteel bulletins now available. A brief description of the product and photographs of its application are included. A special railroad bulletin is also available to readers in that field. *Wm. F. Klemp Co., Chicago 38, Ill.*

2025

How to Use the Selenium Charger—Booklet now available describes on-the-spot charging of batteries for the Transporter, Automatic's motorized hand truck. The new battery charger is automatic. The selenium charger is for use with Transporter. *Automatic Transportation Co., Chicago 20, Ill.*

2026

Trade Name Advertising — What Palmlac Decals can do to sell your trade name, and how they can do it is told in Bulletin No. 25, eight pages in color devoted to telling you how to get the most out of a trade mark advertising dollar. *Palm Brothers Decalcomania Company, Cincinnati, Ohio.*

2027

Arc Welding Electrodes—For AC and DC welding of mild steels, low alloy steels, bronzes and cast iron as well as for hard surfacing, automatic welding and underwater cutting and welding work, a 92-page catalog, illustrated in four colors, gives applications, characteristics, properties and procedures for over 40 Murex Arc Welding Electrodes. *Metal and Thermit Corp., New York 5, N. Y.*

2028

How to Buy Surplus Property — Not only "How?" but also "What?" and "Where?" are questions on surplus property buying that are answered in a 32-page booklet, illustrated, which WAA has issued for the public. It obtains information in detail on the question of priorities as well. *Available at post offices and all War Assets Administration offices in the country.*

2029

Reinforcing Bars — For foundry gagger bar operations, and because they form a real improvement, so claimed, in bonding value of concrete reinforcing steel, use of HI-BOND reinforcing bars is advocated in a bulletin published by *Joseph T. Ryerson & Son, Inc., Los Angeles 13, Calif.*

2030

Boring Machines—New literature on operation details, specifications and prices of Hydro-Borer hydraulic boring machines for industrial purposes is now available. *The Hydro-Borer Company, Burbank, Calif.*

2031

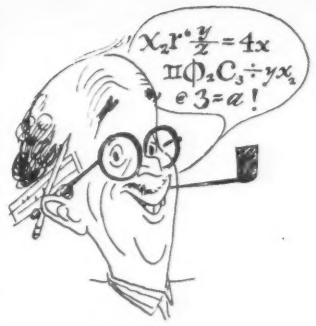
Diesel Engine Pyrometer — Detailed descriptions of drawings and specifications of diesel thermocouple assemblies to be used with a new diesel engine pyrometer, also described in detail, are contained in Bulletin P1233. *The Bristol Company, Waterbury 91, Connecticut.*

2032

Maintenance Materials — Stonhard building maintenance materials are described in a new folder. Applications for floors, walls and roofs are included, together with many other suggested uses. *Stonhard Co., Philadelphia 8, Pa.*

2033

Ready Reference — 845 American Standards are included in the new ASA Catalog. Included are definitions of technical terms, specifications for metals and other materials, dimensions, safety provisions for use of machinery, methods of work and methods of test. *American Standards Association, New York 17, N. Y.*



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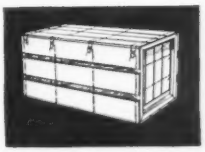
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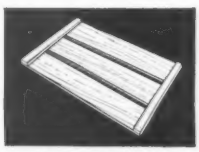
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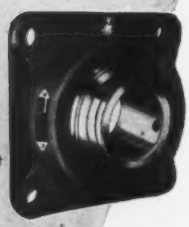
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